McGill University Libraries
3 100 785 283 F



Faculty of Arts.

The Principal (Ex-officio).

Professors :—Leach.
De Sola.
Dawson.
Markgraf.
Johnson.

Professors :—Cornish.
Darey.
Murray.
Harrington.
Moyse.

Dean of the Faculty :—Ven. Archdeacon Leach, D.C.L., LL.D.
Vice-Dean :—Alexander Johnson, LL.D.
Librarian :—Professor Markgraf, M.A.

[Contents.—*Course of Study*, §I. ; *Matriculation*, &c., §II. ; *Exhibitions*, &c., §III. ; *Examinations*, &c., §IV. ; *Exemptions*, &c., §V. ; *Medals*, &c., §VI. ; *Licensed Boarding-houses*, §VII. ; *Attendance*, &c., ; §VIII. ; *Library*, &c., §IX. ; *Fees*, &c., §X. ; *Courses of Lectures*, §XI.]

The next Session of this Faculty will commence on September 15th, 1879, and will extend to April 30th, 1880.

§ I. COURSE OF STUDY.

1. Undergraduates are arranged according to their standing, as Students of the First, Second, Third or Fourth Years. They are required to attend all the Courses of Lectures appointed for their several years, under the Regulations as to attendance and conduct stated in §VIII ; the only exceptions are those in favour of Honour and Professional Students, stated in §V.

ORDINARY COURSE FOR THE DEGREE OF B.A.

First Year.—Classics ; French or German ; English Language and Literature ; Pure Mathematics ; History ; Elementary Chemistry.

Second Year.—Classics ; French or German ; Logic and Elementary Psychology ; Pure Mathematics ; Botany.

Third Year.—Classics ; Rhetoric and English Literature ; Moral Philosophy ; Mixed Mathematics ; Experimental Physics ; Zoology.

Fourth Year.—Classics ; English Literature ; Mental Philosophy ; Mixed Mathematics ; Experimental Physics ; Mineralogy and Geology.

LE3
M2
1879-80
803844

Undergraduates are required to study either French or German for two years, (viz., in the First and Second Years) taking the same language in each year. Any Student failing to pass the Examination at the end of the Second Year, will be required to pass a Supplemental Examination, or to take an additional Session in the Language in which he has failed. In addition to the obligatory, there are other Lectures, attendance on which is optional.

The Lectures in Modern Languages will be so arranged that Students competent and desirous to take in the same years the Lectures in French and in German, may do so.

Students who intend to join any Theological School, on giving written notice to this effect at the beginning of the First Year, may take Hebrew instead of French or German.

The Faculty may permit any Student to take Spanish instead of French or German.

2. At the examination for the Degree of B.A., Honours are given in the following subjects, for which special Honour Courses are provided :—[For details see under §XI.]

1. *Classical Languages and Literature.*
2. *Mathematics and Physics.*
3. *Logic and Mental and Moral Philosophy.*
4. *English Language, Literature, and History.*
5. *Geology and other Natural Sciences.*

Students taking B.A. Honours in any of the above Courses, may omit two of the ordinary subjects in the Degree Examination, under the conditions stated in §V., 11.

Honours are given in the above subjects in the Third Year also, and in Mathematics in the First and Second Years as well.

---

§ II. MATRICULATION AND ADMISSION.

1. Candidates for Matriculation as Undergraduates are required to present themselves to the Dean of the Faculty, on the 16th of September, for examination; they may, however, enter after the commencement of the Session, if, on examination, found qualified to join the classes.

The subjects of examination for entrance into the First Year, are Classics, Mathematics and English.

In Classics.—Greek.—Xenophon, Anabasis, Book I.; or, Homer, Iliad, Book I.; Greek Grammar.

Latin.—Cicero, Orations I. and II. against Catiline ; or, Virgil, Æneid, Book I; Latin Grammar.

In Mathematics.—Arithmetic ; Algebra, to Simple Equations, inclusive ; Euclid's Elements, Books I., II., III.

In English.—Writing from Dictation. English Composition. A paper on English Grammar including Analysis. A paper on the leading events of English History.

[Associates in Arts who, at their special Examination, have passed in Latin, Greek, English, Algebra and Geometry, are not required to present themselves for the Matriculation Examination.]

2. Candidates not matriculated in the University, or Partial Students of the First Year, may be admitted to the standing of students of the Second Year, provided that they pass the Sessional Examinations of the First Year, or an examination in the following subjects at the beginning of the Second Year :—

In Classics.—Greek.—Homer, Book VI. ; Xenophon, Anabasis, Book I. ; Grammar and Prose Composition.

Latin.—Virgil, Æneid, Book VI. ; Cicero, Orations IV. against Catiline ; Grammar and Prose Composition.

[Equivalent authors in Latin and Greek may be received by the Examiners.]

In Mathematics.—

Euclid.—Books I., II., III., IV., VI., with defs. of Book V. (omitting propositions 27, 28, 29, of Book VI.).

Algebra.—To end of Quadratic equations (Colenso's Alg.).

Trigonometry.—Galbraith and Haughton's Trigonometry, Chaps. 1, 2, 3, 4, 6, to beginning of numerical solution of plane triangles.

Arithmetic.—Ordinary rules, Proportion, Interest, Discount, &c., Vulgar and Decimal Fractions, Square Root.

In English Literature.—English Grammar including Analysis, English Composition, English History.

In French or German.—Grammar and easy Translation.

[Candidates must satisfy the Professor of French that they have a fair knowledge of De Fivas' Grammaire des Grammaires as far as Syntax ; failing this or the knowledge of German requisite to join the regular class, they may *commence* the study of German, which they will then be required to carry on for two years.]

Students of other Universities may be admitted, on the production of Certificates, to a like standing in this University, after examination by the Faculty.

PARTIAL STUDENTS.—Candidates for Matriculation as Partial students, taking three or more Courses of Lectures, or as students in any Special Course, will be examined in the subjects necessary thereto, as may from time to time be determined by the Faculty.

OCCASIONAL STUDENTS.—Persons desirous of taking one or two Courses of Lectures, as Occasional students, may apply to the Vice-Dean for entry in his Register, and may procure from the Secretary tickets for the Lectures they desire to attend.

Every student is expected to present, on his entrance, a written intimation from his parent or guardian, of the name of the minister of religion under whose care and instruction it is desired that the student shall be placed, who will thereupon be invited to place himself in communication with the Faculty on the subject. Failing such intimation from his parent or guardian, the Faculty will endeavour to establish befitting relations.

§ III. SCHOLARSHIPS AND EXHIBITIONS.

General Regulations.

1. A Scholarship is tenable for *two* years. An Exhibition for *one* year.

2. Scholarships are open for competition to Students who have passed the University Intermediate Examination, provided that not more than three Sessions have elapsed since their Matriculation ; and also to candidates who have obtained what the Faculty may deem equivalent standing in some other University.

3. Scholarships are divided into two classes :—[1] *Science* Scholarships ; [2] *Classical and Modern Language* Scholarships. The subjects of Examination for each are as follows :—

Science Scholarships.—Differential and Integral Calculus ; Analytic Geometry; Plane and Spherical Trigonometry ; Higher Algebra and Theory of Equations ; Pure Mathematics (as in Ordinary Course) ; Botany ; Chemistry ; Logic.

Classical and Modern Language Scholarships.—Greek ; Latin ; English Composition ; English Language, Literature and History; French.

4. Exhibitions are assigned to the First and Second Years.

First Year Exhibitions are open for competition to candidates for entrance into the First Year.

Second Year Exhibitions are open for competition to Students who have passed the First Year Sessional Examination, provided that not more than two Sessions have elapsed since their Matriculation ; and also to candidates for entrance into the Second Year.

The subjects of Examination are as follows :—

First Year Exhibitions.—Classics, Mathematics, English.

Second Year Exhibitions.—Classics, Mathematics, English Language, and Literature, Chemistry, French.

5. The First and Second Year Exhibition Examinations will, for Candidates who have not previously entered the University, be regarded as Matriculation Examinations.

6. No student can hold more than one Exhibition or Scholarship at the same time ; but four of the first Year Exhibitioners will be granted exemption from the Sessional fees throughout their College Course, under Presentation Scholarships from the Governor General. (See below.)

7. Exhibitions and Scholarships will not necessarily be awarded to the best answerers at the Examinations. Absolute merit will be required.

8. If in any one College Year there be not a sufficient number of Candidates showing absolute merit, any one or more of the Exhibitions or Scholarships offered for competition may be transferred to more deserving Candidates in another year.

9. A successful Candidate must, in order to retain his Scholarship or Exhibition, proceed regularly with his College Course to the satisfaction of the Faculty.

10. The annual income of the Scholarships or Exhibitions will be paid in four instalments, viz :—in October, December, February and April, about the 20th day of each month.

11. The Examinations will be held at the beginning of every Session.

There are at present thirteen Scholarships and Exhibitions.

THE JANE REDPATH EXHIBITION, founded by Mrs. Redpath, of Terrace Bank, Montreal :—value, $100 yearly.

THE MCDONALD SCHOLARSHIPS AND EXHIBITIONS, ten in number, established by W. C. McDonald, Esq., Montreal :—value, $125 each, yearly.

THE GOVERNORS' SCHOLARSHIP, established by the Board of Governors :—value about $120 yearly.

THE CHARLES ALEXANDER SCHOLARSHIP, founded by Charles Alexander, Esq., Montreal, for the encouragement of the study of Classics and other subjects :—value, $120 yearly.

EXHIBITIONS AND SCHOLARSHIPS TO BE OFFERED IN SEPTEMBER, 1879.

First Year.

THREE EXHIBITIONS.—Two of $125, one of $100. The examinations will be in the following subjects :

Greek.—Homer, Iliad, bk. VI.; Xenophon, Anabasis, bk. II.; Demosthenes, Philippic I.

Latin.—Cicero, Pro Archia; Horace Odes, bk. I.; Ovid, Fasti, bk. I., vss. 1—300.

Latin Prose Composition.

A paper on Greek and Latin Grammar.

Text-books.—Hadley's Elements of Greek Grammar.— Arnold's Greek Prose Composition, Exercises 1 to 25. Dr. Wm. Smith's Smaller Latin Grammar, and Principia Latina, Part IV.

Mathematics.—Euclid, bks. I., II., III., IV.; Algebra to end of Harmonical Progression (Colenso). Arithmetic.

English.—English Grammar and Composition—(Bain's Grammar, as far as Derivation.) Special exercises in Grammar and Composition.

Additional Exhibitions may be given in the First Year, should there not be qualified candidates in the Second and Third Years.

Second Year.

TWO EXHIBITIONS.—Two of $125 each, and one of $100.

The Examinations will be in the following subjects :—

Greek.—Homer, Odyssey, bk. XII.; Xenophon, Hellenics, bk. II.; Herodotus bk. I., Chaps. 26 to 91, inclusive.

Latin.—Horace, Odes, bk. III.; Livy, bk. IX., Chaps. 1 to 25, inclusive ; Virgil, Æneid, bk. VI.; Cicero, Select Letters (Pritchard and Bernard).

Greek and Latin Prose Composition.

A paper on Grammar and History.

Text-books.—Dr. William Smith's History of Greece. Liddell's History of Rome. Hadley's Greek Grammar. Smith's Student's Latin Grammar. Arnold's Greek Prose Composition. Smith's Principia Latina, Parts IV. and V.

Mathematics.—The Mathematics (Ordinary and Honour) of First Year.

English Literature.—Bain's Grammar; Latham's Hand-Book, Prosody;—Special exercises in Grammar and Composition.

Chemistry.—The metallic Elements as in Wilson's Elementary Chemistry.

French.—De Fivas, Grammaire des Grammaires, to paragraph No. 422. Lafontaine, les Fables, 1er Livre. Molière, le Bourgeois gentilhomme.

Third Year.

FOUR SCHOLARSHIPS.—Four of $125 yearly.

Two of these will be given on Examinations in Science as follows :—one in Mathematics and Logic, and one in Natural Science and Logic :—

1. *Mathematics.*—Differential Calculus (Williamson, Chaps. 1, 2, 3, 4, 9 ; Chap. 12, Arts. 168-193 inclusive; Chap. 17, Arts. 225-243 inclusive). Integral Calculus (Williamson, Chaps. 1, 2, 3, 4, 5 ; Chap. 7, Arts. 126-140 inclusive ; Chap. 8, Arts. 150-156 inclusive ; Chap. 9, Arts. 168-176 inclusive). Analytic Geometry (Salmon's Conic Sections, Chaps. 1-14 inclusive) ; Hind's Plane and Spherical Trigonometry. Salmon's Modern Higher Algebra (first six chapters), Todhunter's Theory of Equations.

   Logic, as in Whately's Logic, Books II. and III.

2. *Natural Science.*—*Botany*, as in Gray's Structural and Systematic Botany. *Canadian Botany*, including a practical acquaintance with all the orders of Phænogams and Acrogens. *Chemistry*, as in Wilson's Elements.

   Logic, as in Whately's Logic, Books I. and II,

Two will be given on an Examination in Classics and Modern Languages, as follows :—

Classics.—*Greek.*—Euripides, Medea ; Demosthenes, the Olynthiacs ; Xenophon, Hellenics, Book I. ; Herodotus, Book VIII. ; Thucydides, Book I.,

Latin.—Horace, Satires, Book I., and Epistles, Book I.; Virgil, Georgics, Book I ; Terence, Adelphi ; Tacitus, Annals, Book I. ; Pliny, Select Letters (Pritchard and Bernard ; Clarendon Press Series).

Greek and Latin Prose Composition.

History—Text-books.—Rawlinson's Manual of Ancient History ; Smith's Greece ; Liddell's Rome.

English Language and Literature.—Spalding's English Literature ; Bacon's Essays ; Klipstein's Anglo-Saxon Grammar ; Trench's Study of Words ; Trench's English, Past and Present.

English Composition.—(High marks will be given for this subject, in order to encourage the practice of it, after the models of the best writers.)

French.—Racine, Britannicus ; Molière, les Femmes savantes. De Fivas' Grammaire des Grammaires. Demogeot, French Literature to the end of 18th century. Translation from English into French.

EXEMPTIONS FROM FEES UNDER PRESENTATION SCHOLARSHIPS, &c.

A number of these are in the gift of benefactors, and entitle the students holding them to Exemption from the Sessional Fees in the Faculty of Arts. Sixteen have been placed by the Governors at the disposal of His Excellency the Governor General. Candidates must pass the usual Matriculation Examination.

[By command of His Excellency, four of these Exemptions will be offered for competition in the First Year Exhibition Examinations of the ensuing session.]

Eight Exemptions from fees may be granted by the Board of Governors, from time to time, to the most successful students who may present themselves as candidates. By order of the Board one of these is given annually to the *Dux* of the High School, and of any other Academy or High School, sending up, in one year, three or more candidates competent to pass creditably the Matriculation Examination.

In the event of any Academy or High School in the Province of Quebec offering for competition among pupils an Annual Bursary in the Faculty of Arts, of not less than $80, the Governors will add the amount of the fees of tuition thereto.

An Exemption from fees may be given annually to any teacher holding the Model School or Academy Diploma of the McGill Normal School, recommended by the Principal and Professors of the School, and passing creditably the Matriculation Examination in Arts.

§ IV. EXAMINATIONS.

COLLEGE EXAMINATIONS.

1. There are two Examinations in each year; one at Christmas and the other at the end of the Session. In each of these, students are arranged according to their answering, as 1st Class, 2nd Class, and 3rd Class.

In the Fourth Year only, the University Examination for B.A., takes the place of the Sessional Examination.

Fourth Year Students are required, at the Christmas Examination to pass in all the subjects of the obligatory lectures even though some of the subjects do not form part of their B.A Examination.

2. Students who fail in any subject in the Christmas Examinations, are required to pass a Supplemental Examination in that subject before admission to the Sessional Examinations.

3. Students who fail in one subject in the Sessional Examinations are required to pass a Supplemental Examination in it. Should they fail in this, they will be required in the following Session to attend the Lectures and pass the Examination in the subject in which they have failed, in addition to those of the Ordinary Course or to pass the Examination alone without attending Lectures, at the discretion of the Faculty.

4. Failure in two or more subjects at the Sessional Examinations involves the loss of the Session. The Faculty may permit the Student to recover his standing by passing a Supplemental Examination at the beginning of the ensuing Session. For the purpose of this Regulation, Classics and Mathematics are each regarded as two subjects.

5. The time for the Supplemental Examination will be fixed by the Faculty; and such Examination will not be granted at any other time except by special permission of the Faculty and on payment of a fee of $5.

UNIVERSITY EXAMINATIONS.

1. FOR THE DEGREE OF B.A.

There are three University Examinations:—The *Matriculation*, at entrance; the *Intermediate*, at the end of the Second Year; and the *Final*, at the end of the Fourth Year.

1. The subjects of the Matriculation Examination are stated in Section II.

2. In the Intermediate Examination the subjects are Classics and Pure Mathematics, Logic, and the English Language, with one other Modern Language, or Botany. Theological Students are allowed to take Hebrew instead of a Modern language. The subjects for the Examination of 1880 are as follows :—

Classics.—Greek.—Euripides.—Medea.
Latin.—Horace, Epistles, Book II. and Ars Poetica.
Latin Prose Composition.

Mathematics.—Arithmetic.
Euclid, Books I., II., III., IV., VI., and defs. of Book V.
Algebra, to Quadratic Equations inclusive.
Trigonometry, including use of Logarithms.

Logic.—Whately's Logic, Books II. and III.

English.—An English Essay. Spalding's History of English Literature. A paper on the essentials of English History, (Collier).

With one of the following :—

1, *Botany and Vegetable Physiology.*—Structural and Systematic Botany, as in Gray's Text-book, omitting the Descriptions of the Orders.

2. *French.*—Molière.—le Bourgeois gentilhomme, l'Avare; Racine.—Britannicus —History of French Literature from its commencement to the end of the 17th century (as in Demogeot) ; Translation into French.

3. *German.*—Schmidt's German Guide. Adler's Reader ; Translation into German.

4. *Hebrew.*—Grammar to the end of the Irregular verbs. Translation from the Book of Genesis. Exercises :—Hebrew into English, and English into Hebrew.

3. For the Final Examination six subjects are offered for selection; namely :—[1] Classics, [2] Mixed Mathematics, [3] Mental and Moral Philosophy, [4] Natural Science, [5] Experimental Physics, [6] One Modern Language and Literature (or Hebrew), with History. Every candidate must pass in four of these, namely :—Classics and Mixed Mathematics, which are obligatory, and any two of the remaining subjects, at his option. The subjects for 1880 are as follows :—

1. *Classics.*—Greek.—Thucydides, Book VII.
Aeschylus.—Prometheus Vinctus.
Latin.—Tacitus.—Annals, Book I.
Plautus.—Aulularia.

Latin Prose Composition.
General Paper in Grammar and History.

2. *Mathematics.*—Mechanics. Hydrostatics. Optics. Astronomy. } As treated in Galbraith and Haughton's Manuals.

[Except in the case of Exemptions to Professional Students as stated in § V.]

3. *Mental and Moral Philosophy.*—Murray's Outline of Hamilton's Philosophy. Stewart's Outline of Moral Philosophy, Part II.

4. *Natural Science.*—Geology and Mineralogy, as in Dana's Geology and Manual of Mineralogy.—The Zoology, Botany and Chemistry necessary to the study of the books above named; or as in Dawson's Hand-Book of Zoology; Gray's Structural and Systematic Botany, and Wilson's Inorganic Chemistry.

5. *Experimental Physics.—Light.*—Theories.—Reflection.—Refraction.—Dispersion.—Interference and Diffraction.—Double Refraction.—Polarisation. 2.—*Heat.*—Dilatation of Solids, Liquids and Gases.—Specific and Latent Heat.—Radiation and Conduction.—Mechanical Theory of Heat.

6. *History and English.*—viz., (*a*) *English Language.*—Marsh's Hand-Book; or Chaucer, Prologue to Canterbury Tales with Early English Grammar. (Clarendon Press Series, ed. Morris).

(*b*) *English Literature.*—Shakespeare—Hamlet. (Clarendon Press Series, ed. Clark and Wright), Hallam's Literary History of Europe—the parts relating to English Literature.

(*c*) *History.*—Green's Short History of the English people.

Or instead of History and English, candidates may take one of the following :—

(a) *History and French.*—History as above. The course of French for the Fourth Year.—Boileau, Art poétique; Fénelon, Lettre à l'Académie; Translation into French, and French Composition.

(b) *History and German.*—History as above. Schiller, Geschichte des 30 jahrigen Krieges; Goethe, Iphigenie auf Tauris; General paper on Grammar; Translation into German and German Prose Composition.

(c) *History and Hebrew.*—(Theological Students only.) History as above. Hebrew Grammar; Translation from first four chapters of Isaiah; any three of the Psalms; the Chaldaic portions of the Scriptures; Targum of Onkelos on Genesis, Chap. I,; Modern Hebrew Poetry, Halevi or Gabirol.

II. FOR THE DEGREE OF M. A.

Bachelors in Arts, of at least three year's standing, are entitled to the degree of Master of Arts after such examination and exercises as may be prescribed by the Corporation. The Regulation at present is, that the Candidate shall prepare a Thesis on some literary, scientific, or professional subject, approved by the Faculty.

Such Thesis shall be reported on by the Faculty to the Corporation before the granting of the Degree.

---

§ V. SPECIAL PROVISIONS FOR CANDIDATES FOR HONOURS AND FOR PROFESSIONAL STUDENTS.

I. Candidates for Honours in the Third Year.

Candidates for Honours who, at the Sessional Examination of the Second Year, have passed in the First Class in the subjects in which they purpose to compete for Honours, and not below Second Class in the others, may on application to the Faculty be allowed the following exemptions :—

They may in the Lectures and Examinations of the Third Year omit any one of the following subjects provided it is not immediately connected with that in which they study for Honours :—(1) Greek. (2) Latin. (3) Optics. (4) Rhetoric. (5) Moral Philosophy. (6) Experimental Physics. (7) Zoology.

The particular exemption desired must be stated to the Faculty in the application of the candidate, and no change can be made subsequently.

For the purpose of the above Regulations, the subjects of the Second Year in which Honours are given in the Third Year are classified under the following heads:

1. Classics. 2. Mathematics and Physics. 3. Logic, Moral and Mental Philosophy. 4. Natural Science. 5. English.

The candidate must pursue the Honour course selected to the satisfaction of the Professor, and must pass the Examination therein.

The above exemptions shall be granted only with reference to Honour subjects in which regular courses of Lectures are delivered in the Third Year.

II. Candidates for B.A. Honours.

Students who have attained Honours at the end of the Third Year in any subject, and wish to be candidates for B.A. Honours in the same subject, are entitled to exemptions if they have been placed in the 1st or 2nd Class in any two of the four subjects required for the Final Examination. The Regulations concerning these exemptions are as follows :—

[1] EXAMINATIONS.—They may claim to have the Third Year Examination in the two subjects referred to regarded as a B.A. Examination in the same. This amounts to exemption at the ordinary B.A. Examination from two of the four subjects required above.]

[2] LECTURES.—They are required to attend the Ordinary Lectures of the Fourth Year [for which see § I and Time Table] in three subjects only. Two of these must be the subjects in which they are to pass the ordinary B.A. Examination, if Lectures are delivered in them; if not, the choice is left to the Candidate.

[N.B. Candidates are required to pass the Christmas Examination in the subjects in which they attend the ordinary Lectures.]

III. Law and Medical Students.

1. Students of the Third and Fourth Years, matriculated in the Faculties of Law or Medicine of the University, are entitled to the following exemptions :—

In the Third Year they may omit the Lectures and Examinations in Optics, and in any one of the following subjects :—Zoology, Experimental Physics, or Rhetoric and English Literature.

In the Lectures of the Fourth year they may omit Greek and Astronomy and also Geology or Experimental Physics. At the Christmas Examination of the Fourth year, they may omit Astronomy and Optics.

In the Ordinary B.A. Examinations, they may, in Classics, pass in Latin alone; and in Mixed Mathematics, in Mechanics and Hydrostatics alone.

To be allowed these privileges in either year, they must give notice at the commencement of the Session, to the Dean of the Faculty, of their intention to claim exemptions as Professional Students, and must produce at the end of the Session, certificates of attendance on a full course of Professional Lectures during the year for which the exemptions are claimed.

IV. Students of Affiliated Theological Colleges.

1. Such Students, whether entered as Matriculated or Occasional, are subject to the regulations of the Faculty of Arts in the same manner as other students.

2. The Faculty will make formal reports to the Governing body of the Theological College to which any such Students may belong, as to :—[1] their conduct and attendance on the classes of the Faculty; and [2] their standing in the several examinations; such reports to be furnished after the Christmas and Sessional Examinations severally, if called for.

3. Matriculated Students are allowed no exemptions in the course for the degree of B.A., till they have passed the Intermediate Examination; but they may take Hebrew in the First and Second years, instead of French or German.

4. In the Third and Fourth years they are allowed exemptions as follows :—

In the Third year, they may omit Optics and Rhetoric, and English Literature with Experimental Physics or Zoology.

In the Fourth year, they may omit Astronomy and Optics and English Literature, with Experimental Physics or Geology.

5. Certificates of attendance on the full course of lectures in the Theological College, during the year for which the exemptions are claimed, must be produced by Students who avail themselves of these exemptions, before presenting themselves for Examination.

[No Student will be allowed in the same Session, both Professional and Honour exemptions. Students are cautioned against difficulties that may arise from any change such as taking Professional exemptions in the Third year, and Honour Exemptions in the Fourth, or vice versâ, *e.g.*, a Professional Student who has not taken up "Optics" in the Third year, may be required by the Regulations to take it up in the Fourth if he does not claim Professional exemptions in that year.]

---

§ VI. MEDALS, HONOURS, PRIZES AND CLASSING.

1. GOLD MEDALS will be awarded in the B. A. Honour Examinations to Students who take the highest Honours of the First Rank in the subjects stated below, and who shall have passed creditably the Ordinary Examinations for the Degree of B. A. :—

The *Chapman Gold Medal*, for the Classical Languages and Literature.

The *Prince of Wales Gold Medal*, for Logic and Mental and Moral Philosophy.

The *Anne Molson Gold Medal*, for Mathematics and Natural Philosophy.

The *Shakspere Gold Medal*, for the English Language, Literature and History.

The *Logan Gold Medal*, for Geology and other Natural Sciences.

In the event of there being no candidate for any Medal, or of none of the candidates fulfilling the required conditions, the Medal will be withheld, and the proceeds of its endowment for the year may be devoted to prizes in the subjects for which the Medal was intended. For details, see announcements of the several subjects below.

2. HONOURS, of First or Second Rank, will be awarded to those Matriculated Students who have successfully passed the Examinations in any Honour Course established by the Faculty, and have also passed creditably the ordinary Examinations in all the subjects proper to their year.

3. CERTIFICATES of High General Standing will be granted to those Matriculated Students, who are placed in the First Class in the aggregate of the Studies proper to their year.

4. PRIZES OR CERTIFICATES, to those matriculated Students who may have distinguished themselves in the studies of a particular class, and have attended all the other classes proper to their year.

5. THE NEIL STEWART PRIZE of $20, is open to all Undergraduates of this, and also to Graduates of this or any other University, studying Theology in any College affiliated to this University, under the following rules :—

1. The prize will not be given for less than a thorough examination in Hebrew Grammar, passed in the First Class, in reading and translating the Pentateuch and such poetic portions of the Scripture as may be determined.

2. In case competitors should fail to attain the above standard, the prize will be withheld and a prize of Forty Dollars will be offered in the following year for the same.

[Course for the present year :—Hebrew Grammar (Gesenius); Translation and analysis of the first ten chapters of Genesis ; the prophet Habakkuk (the whole book); and the first five Psalms.]

3. There will be two Examinations of three hours each ; one in Grammar and the other in Translation and Analysis.

This Prize, founded by the late Rev. C. C. Stewart, M. A., and terminated by his death, has been re-established by the liberality of Neil Stewart, Esq., of Vankleek Hill, and will be offered for competition next Session.

6. *(a)*. EARLY ENGLISH TEXT SOCIETY'S PRIZE. This prize, the annual gift of the Early English Text Society, will be awarded for proficiency in (1) Anglo-Saxon, (2) Early English before Chaucer.

The subjects of Examination will be

(1) *The lectures of the 3rd and 4th Years on Anglo-Saxon.*

(2) *Specimens of Early English* (*Clarendon press Series, ed. Morris and Skeat*), *Part II. A.D. 1298—A.D. 1393. The lay of Havelok the Dane,* (*Early English Text Society, ed. Skeat.*)

(*b*). NEW SHAKESPEARE SOCIETY'S PRIZE. This prize, the annual gift of the New Shakespeare Society, will be awarded for a critical knowledge of the following plays of Shakespeare :—

Hamlet ; Macbeth ; Othello ; King Lear.

7. The names of those who have taken Honours, Certificates, or

Prizes, will be published in order of merit; with mention, in the case of Students of the First and Second Years, of the schools, in which their preliminary education has been received.

§ VII. LICENSED BOARDING-HOUSES.

(Regulations for Students in Arts, passed by Corporation, April 1875.)

1. All Students under 21 years of age, not residing with parents or guardians, nor belonging to a Theological College, shall reside in licensed boarding-houses, unless they produce written authority from parents or guardians to reside elsewhere.

2. Persons applying for a license to keep a boarding-house shall produce evidence satisfactory to the Principal, as to their character and fitness, and the suitability of the house for the health and comfort of the students. They shall also supply him with a statement of charges.

3. The keeper of the boarding-house shall report immediately to the Principal, the entrance or departure of any Student, and any instance of immorality or disorderly conduct.

§ VIII. ATTENDANCE AND CONDUCT.

All Students shall be subject to the following regulations for attendance and conduct:—

1. A Class-book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted; and the said Class-book shall be submitted to the Faculty at all their ordinary meetings during the Session.

2. Each Professor shall call the roll immediately at the beginning of a lecture. Credit for attendance on any lecture may be refused on the grounds of lateness, inattention or neglect of study, or disorderly conduct in the Class-room. In the case last mentioned, the student may, at the discretion of the Professor, be required to leave the Class-room. Persistence in any of the above offences against discipline, after admonition by the Professor, shall be reported to the Dean of Faculty. The Dean may, at his discretion, reprimand the student, or refer the the matter to the Faculty at its next meeting, and may in the interval suspend from Classes.

3. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the Faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

4. While in the College, or going to or from it, Students are expected to conduct themselves in the same orderly manner as in the Class-rooms. Any Professor observing improper conduct in the College buildings or grounds, may admonish the Student, and if necessary report him to the Dean.

5. Every Student is required to attend regularly the religious services of the denomination to which he belongs, and to maintain, without, as well as within, the walls of the College a good moral character.

6. When Students are brought before the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, impose fines, disqualify from competing for prizes and honours, suspend from Classes, or report to the Corporation for expulsion.

7. Any Student who does not report his residence, on or before Nov. 1st in each year, is liable to a fine of one dollar.

8. Any Student injuring the furniture or buildings will be required to repair the same at his own expense, and will, in addition, be subject to such other penalty as the Faculty may see fit to inflict.

9. All cases of discipline involving the interest of more than one Faculty, or of the University in general, shall be immediately reported to the Principal, or in his absence, to the Vice-Principal.

§ IX. LIBRARY AND MUSEUM.

1. The books in the Library consist of two divisions :—1st, those which may be lent ; and, 2nd, those designated by the general term "Books of Reference,' which may not, under any circumstances be removed from the Library.

2. A Student may borrow books from the Library on depositing the sum of four dollars with the Librarian, and signing a receipt for the books ; such deposit to be returned to the Student on his returning the books uninjured.

[NOTE.—This rule applies also to Students in Law and Medicine who have paid the Library Fee to the Secretary. They are required to present their Matriculation Tickets to the Secretary and to the Librarian.]

3. Students may borrow not more than three volumes at one time, except on special recommendation of a Professor, and must return them within two weeks, on penalty of a fine of 20 cts. for the first week of detention, and 50 cts. for each subsequent week.

4. A Student incurring a fine will be debarred the use of the Library until the fine has been paid.

5. Any volume or volumes lost or damaged by a student shall be paid for by him, at such rates as the Faculty may direct, having reference to the value of the book and of the set to which it may belong.

6. Students may read in the Library at such hours as may be determined by the Faculty.

7. Professors and Lecturers may borrow any books required by them for their duties in the College, not exceeding ten volumes at any one time. Books so borrowed must be returned at or before the end of each Session.

8. Graduates in any of the Faculties, on making a deposit of four dollars, are entitled to the use of the Library, subject to the same rules and conditions as students, but they are not required to pay the Annual Library Fee.

9 Members of the McGill College Book Club are, by a regulation of Corporation, entitled to the use of the Library on the same conditions as Graduates.

10. Persons not connected with the College may consult books in the Library, on obtaining an order from any of the Governors, or from the Principal, the Dean of the Faculty, or any of the Professors ; and donors of books or money to the amount of Fifty Dollars may at any time consult books on application to the Librarian.

11. The Library will be open from 10 a.m. to 4 p.m., daily, except Saturdays. On Saturdays it will be open from 10 a.m. to 1 p.m.

12. No one is allowed to enter the alcoves or to take down books from the shelves, except the Governors, Members of Corporation, Professors, the Librarian and his assistants, or those whom any of the above may accompany personally.

13. A person desiring to read or to borrow a book, which he has ascertained from the Catalogue to be in the Library, will fill up one of the blank forms provided for Readers and Borrowers respectively, and hand it to the Librarian, who will thereupon procure him the book.

14. Readers must return the books they have obtained to the Librarian, before leaving the Library.

15. No conversation that can disturb Readers is permitted in the Library.

16. The time and conditions of study in the Museum will be arranged by the Professor of Natural History.

---

§ X. FEES.

Matriculation Fee for the First Year (to be paid in the Year of Entrance only), - - - - - - - - -	$4 00
For the Second Year (exigible from students who enter in the Second Year, and also from those who have failed in the First Year and re-enter in the Second Year on Examination.) - - - - - - - - - - -	6 00
Sessional Fee, - - - - - - - - - -	20 00
Library Fee, - - - - - - - - - -	4 00

Gymnasium Fee, - - - - - - - - - 2 50

Undergraduates and Students in Special Courses are required to pay all the above Fees.

Partial Students, viz : those taking three or more Courses of Lectures are required to pay the Matriculation, Library and Gymnasium Fees, and $5 for each Class which they attend, or $20 for all the courses.

Occasional Students taking one course of Lectures only, are required to pay $5 per Session for that course.

Occasional Students taking two courses of Lectures, are required to pay the Library Fee and $5 for each course.

The Matriculation, Library, and Gymnasium Fees are exigible from students holding exemptions from Sessional Fees.

Graduates in Arts, are allowed to attend, without payment of fees, all lectures, except those noted as requiring a special fee.

The fees must be paid to the Secretary and the tickets shown to the Vice-Dean within a fortnight after the commencement of attendance in each session. In case of default, the Student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty and on payment of a fine of $2.

[All fines (see also 7, § VIII.) are applied to the purchase of books for the Library.]

Fee for the Degree of B. A. - - - - - - $ 5 00

" " " *M. A.* - - - - - - - 10 00

If the Degree of M.A., be granted, with permission to the Candidate, on special grounds, to be absent from Convocation, the fee is - - $25 00

The B. A. fee must be paid before the Examination.

The M. A. fee must be sent to the Secretary of the University, at the same time that the Candidate sends his Thesis to the Dean of the Faculty. This is a condition essential to the entertaining of his application.

---

§ XI. COURSES OF LECTURES.

I. ORDINARY COURSE.

I. CLASSICAL LITERATURE AND HISTORY.

Professor, Rev. G. CORNISH, M.A., LL.D.

GREEK.

First Year.—HOMER.—ODYSSEY, Book XII.

XENOPHON.—HELLENICS, Book II.

Greek Prose Composition.

Second Year.—Lysias.—In Eratosthenem.
Euripides.—Medea.

Third Year.—Demosthenes.—The Olynthiacs.
Sophocles.—The Electra.

Fourth Year.—Thucydides.—Book VII.

LATIN.

First Year.—Virgil.—Æneid, Book VI.
Cicero.—Epistolae Selectae.
Latin Prose Composition.

Second Year.—Horace.—Epistles, Book II., and Ars Poetica.
Pliny.—Epistolae Selectae.
Latin Prose Composition.

Third Year.—Juvenal.—Satires VIII. and X.
Plautus.—Aulularia.
Latin Prose Composition.

Fourth Year.—Tacitus.—Annals, Book I.
Latin Prose Composition.

In the work of the Class the attention of the Student is directed to the collateral subjects of History, Antiquities and Geography; also to the grammatical structure and affinities of the Greek and Latin Languages; and to Prosody and Accentuation.

---

2. ENGLISH LANGUAGE AND LITERATURE.

(Molson Professorship.)

Professor, Ven. Archdeacon Leach, D.C.L., LL.D.

Associate-Professor, Chas. E. Moyse, B.A.,

First Year.—English Language and Literature.—Text-books—Bain's English Grammar; Spalding's History of English Literature.

Second Year.—A detailed course on some period of English Literature.

Third Year.—Rhetoric.—Text-book—Whately's Rhetoric, I., II., III.

Fourth Year.—A course on the following special subjects;—
Chaucer, The Prologue to the Canterbury Tales; Shakespeare, Hamlet.

---

3. HISTORY.

Professor, Chas. E. Moyse, B.A.

The Professor of History will deliver a course of lectures on some period of Modern History, of which due notice will be given.

4. LOGIC, MENTAL AND MORAL PHILOSOPHY.

(JOHN FROTHINGHAM PROFESSORSHIP OF MENTAL AND MORAL PHILOSOPHY)

Professor, REV. J. CLARK MURRAY, LL.D.

Second Year.—ELEMENTARY PSYCHOLOGY.—Text-Book—Stewart's Outlines of Moral Philosophy, Part I.—LOGIC—Text-Book—Whately's Logic.

Third Year.—MORAL PHILOSOPHY.—Text-Book—Stewart's Outlines, Part. II.

Fourth Year.—MENTAL PHILOSOPHY.—Text-Book—Murray's Outline of Hamilton's Philosophy.

---

5. FRENCH LANGUAGE AND LITERATURE.

Professor, P. J. DAREY, M.A., B.C.L.

First Year.—DE FIVAS, Grammaire des Grammaires.
LA FONTAINE, les Fables, livres III et IV.—MOLIÈRE, le Bourgeois gentilhomme.
Dictation. Colloquial exercises.

Second Year.—DE FIVAS, Grammaire des Grammaires.
RACINE, Britannicus.—MOLIÈRE, l'Avare.
Translation into French :—DR. JOHNSON, Rasselas.
History of French Literature :—DEMOGEOT, (to the 18th century.)
Dictation. Parsing. Colloquial exercises.

Third Year.—POITEVIN, Grammaire élémentaire.
EMILE SOUVESTRE, Un Philosophe sous les toits.
CORNEILLE, le Cid.
Translation into French.—GOLDSMITH, Vicar of Wakefield.
French Composition. Dictation.
History of the French Literature of the 18th and 19th centuries :—DEMOGEOT.

Fourth Year.—BARRIERE et CAPENDU, les Faux bons hommes.
PONSARD, l'Honneur et l'Argent.
Lectures on French Literature.
Translation into French, Shakspere, "As you like it."
French Composition. Dictation.

The Lectures in the Third and Fourth Years are given in French.

---

6. GERMAN LANGUAGE AND LITERATURE.

Professor, C. F. A. MARKGRAF, M.A.

First and Second Years—Ordinary Course :—This Course comprises Grammar, Reading and Analysis, and Translations oral and written. Special regard is had to the affinities of the German with the English. Text-Books :—Schmidt's German Guide (1st and 2nd Course); Adler's Progressive German Reader.

First Year.—Advanced Course.—Text-Books :—Schmidt's German Guide (1st and 2nd Course) ; Adler's Progressive German Reader.

Second and Third Years.—Advanced Course.—Text-Books :—Schmidt's German Guide (3rd Course) ; Readings in German Prose and Poetry (the Books to be used will be made known at the commencement of the Session.) Translations from English writers and Composition.

During this Course a series of Lectures will be delivered on the History of German Literature, from the earliest periods down to the classical age of Goethe and Schiller; closing with a brief notice of the state of German Literature at the present day.

---

7. HEBREW AND ORIENTAL LITERATURE

Professor, Rev. A. De Sola, LL.D.

Elementary Course.—For Students of the First and Second Years.—Grammar ; —Text-Book, Gesenius' Hebrew Grammar, with exercises in Orthography and Etymology ; Reading ; Translation and Grammatical Analysis of Historical portions of the Scriptures—Syntax—Mishlé Shualim—Fables, &c.

Advanced Course.—(*For Students of the Second, Third and Fourth Years.*)—Introduction to the study of Hebrew Poetry—its spirit and characteristics. Lowth and Sarchi as Text-Books. Translation from the Psalms, Lamentations and Isaiah. Ancient compared with Modern Hebrew Poetry ; the productions of Halevi, Gabirol, &c., Grammar, Exercises, &c., continued.

The Chaldee Language :—Grammar, *Mebo Halashon Aramith* of J. Jeitteles. The Chaldee portions of Scripture. Targum of Onkelos and T. Yerushalmi.

The Syriac Language;—Grammar (Uhlemann's) and Translation.

The course comprises Lectures on the above Languages and their Literature in particular, with a general notice of the other Oriental Languages, their genius and peculiarities. Comparative Philology, affinity of roots, &c., also receive due attention, while the portions selected for translation will be illustrated and explained by reference to Oriental manners, customs, history, &c.

---

8. SPANISH LANGUAGE AND LITERATURE.

Rev. Professor De Sola.

(Extra Fee for this Class, $5.00.)

The study of the Spanish Language on this continent, being generally pursued with special reference to commercial purposes, it will be sought to impart in this course, a practical knowledge of the Castilian, the richest and most harmonious of the Peninsular languages—as well as an acquaintance with its Literature.

Ollendorf's Spanish Grammar by Velazquez and Simmone, and the Reader of Velazquez, are the Text-Books employed in the Junior Class, who will also be

exercised in composition by both written and oral exercises. In the Se or Class, Fernandes' Exercises, continuation of Grammar and Composition, Cervantes' Don Quixote, Quintana, Vida del Cid, and Mariana's Historia will be the subjects of study. Besides a special comparison with the Portuguese Language, a general notice, literary and historical, of the Bascuence and other dialects will be given.

9. MATHEMATICS AND NATURAL PHILOSOPHY.

(PETER REDPATH PROFESSORSHIP OF NATURAL PHILOSOPHY.)

Professor, ALEXANDER JOHNSON, M.A., LL.D.

(In the work of the First and Second Years assistance will be given by G. H. Chandler, B.A., Lecturer in Mathematics in the Faculty of Applied Science.)

MATHEMATICS.—*(First Year)*—Arithmetic.—Euclid, Books 1, 2, 3, 4, 6, with Definitions of Book 5 (omitting propositions 27, 28, 29, of Book 6). Todhunter's Edition.—Colenso's Algebra, Part 1, to end of Quadratic Equations.—Galbraith and Haughton's Plane Trigonometry to beginning of solution of Plane Triangles.

MATHEMATICS.—*(Second Year)*—Arithmetic, Euclid, Algebra, and Trigonometry as before.—Nature and use of Logarithms.—Remainder of Galbraith and Haughton's Plane Trigonometry—Elements of Solid Geometry, including the mensuration of Surfaces and Solids. Geometrical Conic Sections :—the Parabola with the fundamental properties of the Ellipse and Hyperbola. Text-book :—Wilson's Solid Geometry and Conic Sections, pp. 1-60 and 93-118.

The course for the Intermediate University Examination consists of the Mathematics for the first two years except Conic Sections and Solid Geometry.

MATHEMATICAL PHYSICS. — *(Third Year)* — Galbraith and Haughton's Mechanics (omitting chap 5 of Statics), Hydrostatics, Optics.

ASTRONOMY.—*(Fourth Year)*—Galbraith and Haughton's Astronomy—The lectures on this subject will be given before Christmas.

EXPERIMENTAL PHYSICS.—(*Third and Fourth Years.*)—1.—*Light.*—Theories.—Reflection.—Refraction.—Dispersion.—Interference and Diffraction.—Double Refraction.—Polarisation. 2.—*Heat.*—Dilatation of Solids, Liquids and Gases.—Specific and Latent Heat.—Radiation and Conduction.—Mechanical Theory of Heat. 3.—*Electricity.*—Statical and Dynamical :—including Electro-Magnetism—Magneto-Electricity—Thermo-Electricity—Diamagnetism—Electric Measurements— Practical Application to Telegraph, &c. 4.—*Magnetism.* 5.—*Sound.*—Theory of Undulations.—Production and Propagation of Sound —Vibrations of Strings, Rods, and Plates.—Vibrations of Fluids.—Musical sounds. Text-Books :—Ganot's Treatise translated by Atkinson, and Tyndal on Heat and Sound. This Course extends over two years.

The Subjects for the Session 1879-80 are Light and Heat.

The Lectures in Mathematical and Experimental Physics will be illustrated by Apparatus, of which the College has a very good collection.

10. GEOLOGY AND NATURAL HISTORY.

(Logan Professorship of Geology.)

Professor, J. W. Dawson, LL.D., F.R.S., F.G.S.

B. J. Harrington, B.A., Ph. D., Assistant Professor of Geology.

I. Biological Course.

Botany.—*(Second Year.)*—Vegetable Histology and Organography. Nutrition and Reproduction of Plants. Classification. Descriptive Botany. Flora of Canada. Palæobotany and Geographical Botany.

Text-book.—Gray's Structural and Systematic Botany.

[A prize of $20 will be given by the Professor for the best collection of plants, and the greatest proficiency in their determination. The prize collections or duplicates of them to remain in the College Museum. Candidates must be students in Botany of the previous session.]

Zoology and Palæontology. *(Third Year)*—Elements of Animal Physiology. Classification of Animals. Characters of the Classes and Orders of Animals, with Recent and Fossil Examples.

Text-book.—Dawson's Hand-book of Zoology, with books of reference.

II. Geological Course.

Mineralogy and Geology. *Fourth Year.*

(1) *Mineralogy.*—Chemical and Physical characters of Minerals, including Crystallography, the methods of determining species, and Descriptive Mineralogy; with special reference to those species most important in Geology, or useful in the Arts.

(2) *Lithology and Stratigraphy.*—Composition of Rocks and their structure on the small scale; Classification of Rocks. Arrangement of Rocks on the large scale; Stratification, Elevation and Disturbances, Denudation.

(3) *Chronological Geology and Palæontology.*—Data for determining the relative ages of Formations. Classification according to age. Fauna and Flora of the successive periods. Geology of British America.

Text-books.—Dana's Manuals of Mineralogy and Geology, with Lyell's Student's Elements.

The Lectures in Natural History will be accompanied with demonstrations in the Museum. Students in Natural History are also entitled to tickets of admission to the Museum of the Natural History Society of Montreal.

---

11. CHEMISTRY.

Lecturer, B. J. Harrington, B.A., Ph. D.

First Year.—A course of Elementary Chemistry preparatory to the courses in Natural Science and Practical Science.

Text-book.—Wilson's Inorganic Chemistry.

12. METEOROLOGY.

Superintendent of Observatory, C. H. McLEOD, Ma. E.

Instruction in Meteorological Observations will be given in the Observatory, at hours to suit the convenience of the senior students.

Certificates will be granted to those students who pass a satisfactory examination on the construction and use of Meteorological Instruments and on the general facts of Meteorology.

---

13. ELOCUTION.

MR. JOHN ANDREW, Instructor.

Students are recommended by the Faculty to avail themselves of the Instructions of Mr. Andrew, who will make arrangements for evening classes to meet during the Session.

II. HONOUR COURSES.

1. CLASSICS.

B. A. HONOURS, BEING THE HONOUR COURSE FOR STUDENTS OF THE THIRD AND FOURTH YEARS.

Candidates for B.A. Honours in Classics, will be examined in the following subjects :—

I.—*Greek Philosophy.*

Plato.—Republic, Books I, and II.

Aristotle.—Nicomachean Ethics, Books I. and II.

II.—*Greek History.*

Herodotus.—Books VIII. and IX.

Thucydides.—Book I.

Xenophon.—Hellenics, Books I. and II.

III.—*Greek Poetry.*

a. Epic.—Homer.—Odyssey, Books I, II. and III.

Hesiod.—Works and Days.

b. Dramatic.—Æschylus.—Prometheus Vinctus.

Seven against Thebes.

Sophocles.—Antigone.

Euripides.—Hippolytus.

Aristophanes.—The Frogs.

c. Lyric and Bucolic.—Pindar.—Olympic Odes.

Theocritus.—Idyls I to VI.

IV.—*Greek Oratory.*

Demosthenes.—De Corona.

Æschines.—Contra Ctesiphontem.

II. LATIN.

I.—*Roman History.*

Livy.—Books XXI., XXII. and XXIII.

Tacitus.—Annals, Books I. and II.

Histories, Book I.

II.—*Roman Poetry.*

a. Epic.—Virgil.—Æneid, Books I. to IV.

b. Dramatic.—Plautus.—Aulularia.

Terence.—Adelphi.

c. Satiric.—Horace.—Satires, Book I.

Juvenal.—Satt. VIII. and X.

Persius.—Satt. V. and VI.

III.—*Roman Oratory and Philosophy.*

Cicero.—De Imperio Cn. Pompeii.

De Officiis.

III. HISTORY OF GREECE AND ROME.

Text-books :—

1. Grote's History of Greece.
2. Arnold's History of Rome.
3. Mommsen's History of Rome.

IV. COMPOSITION.

1. Composition in Greek and Latin Prose.
2. General paper on Grammar, History and Antiquities.

The Examination for B.A. Honours will extend over four days, in the morning from 9 to 12, and the afternoon from 2 to 5.

---

2. LOGIC, MORAL PHILOSOPHY, AND MENTAL PHILOSOPHY.

The Honour Course in this department extends over the Third and Fourth Years. The Lectures of the Third Year review the Ancient Greek Philosophy, while those of the Fourth Year discuss the chief modern systems in connection with the existing tendencies of speculation.

In the Third Year, the Examination will be on the following works, in addition to the Lectures of that Year :—

Schweglers' History of Philosophy, Chapters 1—21, inclusive.

Thomson's Outline of the Laws of Thought, Parts I., II., and III.

For B.A. Honours, the following works will form the subjects of Examination, besides the Lectures of the Third and Fourth Years.

Schwegler's History of Philosophy.
Thomson's Outline of the Laws of Thought, Parts I., II., and III.
Mill's Logic.
Kant's Critique of the Pure Reason.
Kant's Theory of Ethics (translated by T. K. Abbott.)
Plato's Republic.

---

3. ENGLISH LANGUAGE, LITERATURE AND HISTORY.

The examination for Honours in the Third Year will be on the works in the following course :—

Language.—Anglo-Saxon.—The lectures of the Third Year.
Early English.— Specimens of Early English (Clarendon Press Series, ed. Morris and Skeat), Part II., extt. I-IX., inclusive.

Literature.—Chaucer.—The Prologue to the Canterbury Tales, The Knighte's Tale, The Nonne Prestes Tale (Clarendon Press Series, ed. Morris).
Spenser.—The Faerie Queene, Book I.
Milton.—Shorter English Poems ; Areopagitica (ed. Arber.).
Dryden.—Annus Mirabilis ; Hind and Panther ; Absalom and Achitophel.
Wordsworth.—Prelude (Moxon's edition).

History.—The lectures of the Ordinary course.
Hallam.—Middle Ages, caps, 1, 3, 5, 8, 9.
Macaulay.—Vol. I. cap. 1.

Lectures on the Honour Subjects of the Third Year.

Language.—Anglo-Saxon—The essentials of the Anglo-Saxon Language and Literature. Text-book—Sweet's Anglo-Saxon Reader (Clarendon Press Series).

Literature.—A course on some of the special Honour subjects.

History. — Honour students are required to attend the Ordinary course of lectures on History.

B.A. HONOUR COURSE.

For B.A. Honours, the examination will be on the Honour course of the Third Year and on the following subjects ;—

Language.—Anglo-Saxon—The lectures of the Fourth Year.
Early English—Specimens of Early English (Clarendon Press Series, ed. Morris and Skeat), Part II., extt. X-XX., inclusive.

Literature.—Shakespeare—Love's Labour's Lost, A Midsummer Night's Dream, Hamlet, The Tempest.
Ben Johnson—Every Man out of his Humour.

Sir Thomas More—Utopia (ed. Arber).
Pope—Essay on Criticism.
Cowper—The Task, Book II.
Keats—Hyperion.
Shelley—Cenci.
Tennyson—Idylls of the King.
Hallam—Literary History of Europe—the parts relating to English Literature.
Matthew Arnold—Essays in Criticism (the first two).

History.—The lectures of the Fourth Year.
Hallam—Constitutional History, caps. 1, 5 to 14 inclusive.
Macaulay—Vol. I., caps. 2 and 3.

Lectures on the Honour Subjects of the Fourth Year.

Language—Anglo-Saxon—Sweet's Anglo-Saxon Reader and a portion of one of the longer Anglo-Saxon poems.

Literature.—A course on these special Honour subjects, viz:—the four prescribed plays of Shakespeare and Modern Poetry with especial reference to Tennyson's Idylls of the King.

History.—Honour students are required to attend the Ordinary course of lectures on History.

---

4. MATHEMATICS AND PHYSICS.

MATHEMATICS.—*(First Year.)*—McDowell's Exercises on Modern Geometry, &c.—Wood's Algebra—Todhunter's Theory of Equations.

MATHEMATICS.—*(Second Year.)*—Hind's Plane and Spherical Trigonometry.—Salmon's Conic Sections, chapters 1 to 7 and 9 to 13 inclusive.—Williamson's Differential and Integral Calculus (selected course).

MATHEMATICAL PHYSICS.—*(Third Year.)*—Minchin's Statics, (omitting Chapter 14)—Tait & Steele, Dynamics of a Particle.—Besant's Hydromechanics, Chaps. 1, 3, 3, 5.—Walton's Mechanical and Hydrostatical Problems.—Parkinson's Optics.—Main's Practical and Spherical Astronomy, (selected course.)

B. A. HONOUR COURSE.

PURE MATHEMATICS.—Hind's Plane and Spherical Trigonometry.—Todhunter's Theory of Equations.—Williamson's Differential and Integral Calculus.—Boole's Differential Equations (selected course.)—Salmon's Conic Sections.—Salmon's Geometry of three Dimensions (selected course).

MECHANICS.—Minchin's Statics.—Tait & Steele, Dynamics of a Particle—Routh's Dynamics of a Rigid Body.—Besant's Hydromechanics.—Walton's Mechanical Examples.—Walton's Examples in Hydrostatics.

ASTRONOMY.—Main's Astronomy.—Sir John Herschel's Outlines of Astronomy (Part II. The Lunar and Planetary Perturbations.)—Godfray's Lunar Theory.

Newton's Principia Lib. I., Sects. 1, 2, 3, 9, and 11.

LIGHT.—Lloyd's Wave Theory of Light.

HEAT.
ELECTRICITY,
MAGNETISM.
ACOUSTICS,
} As in ordinary course.

The examinations for B.A. Honours will continue *four* days.

The examination for Honours in the other years will continue *two* days. Engineering students may be candidates for Honours.

COURSE FOR THE ANNE MOLSON MATHEMATICAL PRIZE.

The Mathematical Physics of the Honour Course in the Third Year :—

The value of the prize is about $64. It is open for competition to Third Year Students in April 1880.

---

5. NATURAL HISTORY AND GEOLOGY.

Third Year.—Mineralogy and the use of the Blowpipe. Lithology. Elementary course of Chronological Geology. Text-Books :—Dana's Mineralogy and Synopsis by the Professor.

Fourth Year.—The Lectures will include :—

1. An advanced course in Lithology, General Geology and Palæontology, in connection with which the Students will be required to read Dana's Geology and Lyell's Student's Elements.

2. Canadian Geology, in connection with which the Students will read Reports of the Geological Survey of Canada, and Dawson's Acadian Geology.

3. Practical Exercises and instruction in the methods of Observation and of conducting Geological Explorations, and in the study of Palæontology. Text-books :—Von Cotta on Ore Deposits, Nicholson's Palæontology. Excursions for Field-work when practicable.

In addition to the above, the student is required to pass an examination in any one of the following subjects :—

1. Canadian Botany, as in Gray's "Text-Book," and "Manual," and specimens illustrative of these books from the Museum.

2. Zoology and Palæontology of Canada, as in Dawson's Hand-book and Billings' Palæozoic Fossils, with specimens from the Museum.

3. Mineralogy as in Dana, with specimens from the Museum.

Candidates for Honours will be expected to attain to such proficiency as to be able to undertake original investigations in some at least of the subjects of study. Students in the Faculty of Applied Science may be Candidates for Honours.

§XII. APPARATUS AND MUSEUM.

PHILOSOPHICAL APPARATUS.

LIGHT.—Besides a Foucault's Regulator for the Electric Light, an Oxyhydrogen Lamp, a Porte-lumiere for Solar Light, and the usual instruments for the complete illustration of the phenomena of Reflection, Refraction, Dispersion, Achromatism, Vision, &c., the collection contains the means of illustrating Spectrum Analysis by projection on the screen ; a Spectroscope, Duboscq's Projection apparatus for Double Refraction and Polarization, with a large collection of crystals ; two Norremberg's Polariscopes, and apparatus for Interference. It has also Duboscq's Diffraction Bench and apparatus, including the means of measuring the length of a wave of light by Babinet's method, Fresnel's Mirrors for Interference, a Biprism, &c. By means of this last collection photographs of diffraction phenomena have been taken in the College, which are projected on the screen for class illustrations.

ELECTRICITY.—For Electrical experiments there is a large plate-machine with the usual concomitants of Leyden jars, &c. ; also a Holtz machine ; a large Induction coil by Ruhmkorff with Foucault's contact-breaker, giving an eight-inch spark ; an Electro magnet of the largest size, with arrangements for experiments in Diamagnetism, and for the "Magnetization of light ;" a Gaugain's Tangent Galvanometer with two circles, by Elliott Brothers, of London ; a Thomson's Astatic Reflecting Galvanometer of high resistance with set of shunts, &c., by the same makers ; other galvanometers ; Wheatstone's Bridge and Wheatstone's Rheostat, &c., for Electrical measurements ; Delezenne's circle to show induction by the earth's magnetism ; Geissler's tubes, &c.

HEAT.—In the collection for Heat there are large silver-plated Reflectors, &c., apparatus to show formation of vapors in a vacuum and maximum tension ; Thermopiles, with condensers ; two different arrangements for exhibiting the phenomena of Calorescence, &c.

SOUND.—The collection for Sound, containing Organ-pipes and Bellows Tuning forks, Sonometer, Siren, Vibrating-plates, apparatus for singing-flames, &c., is almost wholly from Kœnig, of Paris. The most recent additions include :—The double Siren of Helmholtz, Lissajou's apparatus, Resonators, with arrangements for manometric flames ; Quincke's apparatus for Interference, &c., Meldes' apparatus for the study of vibrating strings ; Tisley's compound Pendulum apparatus and Edison's Phonograph.

MECHANICS AND HYDROSTATICS.—A good collection.

THE MUSEUM OF GEOLOGY AND NATURAL HISTORY.

The collections in Mineralogy and Geology, and part of those in Zoology, are arranged in the Central Hall of the Museum and the gallery surrounding it. The Carpenter collection of Shells occupies a separate fire-proof room. The Botanical Collections occupy the west corridor, and the east corridor is used as a store-room and work-room. All the specimens are, as far as limited space will permit, so arranged and labelled as to be accessible and instructive to Students.

1. MINERALOGY.—The basis of this department is the collection of about 2000 Canadian and Foreign Minerals acquired from the late Dr. Holmes in 1857. Subsequent additions have largely increased this collection, which is now arranged in table cases with drawers beneath, the former containing a complete series of the more important minerals and a suite of crystallographic specimens for the use of Students. In the wall-cases at one side of the hall are separate collections of economic minerals, and illustrations of concretionary and stalactitic structures, metamorphism, mineral veins, &c.

2. GEOLOGY AND PALAEONTOLOGY.—The collections consist of large series of Fossils representing the successive formations. A typical series for the use of Students is arranged in chronological order in table cases around three sides of the hall, with special and local collections in the drawers below. On the walls and in the centre of the hall are large specimens, casts, &c. Among the more important special collections are those representing *Eozoon Canadense*, Devonian Plants and Post-pliocene Fossils, and the skeletons of English Mesozoic Reptiles presented by Mr. Claxton of Montreal. There are also a number of casts of large Fossils from the Ward collection and from the British Museum. A typical collection of rocks is arranged in two table cases.

3. ZOOLOGY.—In this department the Carpenter collection of Shells, presented by the late Dr. P. P. Carpenter, is a principal feature. The specimens are beautifully mounted on glass tablets, and arranged in six large table-cases and seven upright cases, and in drawers beneath the former. The collections of Radiates, Articulates and Vertebrates are temporarily placed in wall cases on one side of the hall and in the gallery above.

4. BOTANY.—The principal part of this collection is the Holmes Herbarium of Canadian and Foreign Plants, including the Grasses and Carices, which have been revised and named by Col. Munro. There is also a collection of specimens of Canadian Woods, presented by the late Dr. Barnston, and by D. Davidson, Esq.; a collection of Australian woods presented by Sir Wm. Dennison ; collections of Foreign Ferns and British Plants, presented by G. Barnston, Esq., and collections of Mosses, Lichens, Fungi, and Algæ.

5. ETHNOLOGY.—In this Department there are Indian Relics from the site of Hochelaga ; the collection of the late Dr. VanCortland of Ottawa, purchased from his heirs ; and a small series of American Skulls.

CLASSICAL SUBJECTS FOR EXHIBITIONS, SEPT. 1880.

FIRST YEAR.

Greek.—Homer, Iliad, bk. IV. ; Xenophon, Anabasis, bk. II. ; Demosthenes, Philippic I.

Latin.—Cicero, In Catilinam, Oratt. III. and IV. ; Horace, Odes, bk. I. ; Ovid, Fasti, bk. I., vss. 1—300.

Latin Prose Composition.

A paper on Greek and Latin Grammar.

Text-books.—Hadley's Elements of Greek Grammar. Arnold's Greek Prose Composition, Exercises 1 to 25. Dr. Wm. Smith's Smaller Latin Grammar, and Principia Latina, Part IV.

SECOND YEAR.

Greek.—Homer, Odyssey, bk. XII. ; Xenophon, Hellenics, bk. II. ; Herodotus, bk. VI., Chaps. 71 to end.

Latin.—Horace, Odes, bk. III. ; Livy, bk. XI., Chaps. 1 to 22 inclusive ; Virgil, Æneid, bk. VI. ; Cicero, Select Letters (Pritchard and Bernard).

Greek and Prose Composition.

A paper on Grammar and History.

Text-books—Dr. William Smith's History of Greece. Liddell's History of Rome. Hadley's Greek Grammar. Smith's Student's Latin Grammar. Arnold's Greek Prose Composition. Smith's Principia Latina, Parts IV. and V.

Lectures in the Undergraduate Course in the Faculty of Arts.

SESSION OF 1879-80.

FIRST YEAR.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
9	Classics.	* French.	* French.	* French.	Mathematics.
10	Mathematics.	Classics.	Classics.	Classics.	Classics.
11	English.	† Mathematics (*c*).	English.	† Mathematics, (*c*).	English.
12	Elementary Chemistry.	* German: * Hebrew.	Mathematics.	* German: * Hebrew.	Elementary Chemistry.
1					

SECOND YEAR.

9	* French.	* German. (*d*)	* German.	English (*b*) * German. (*d*)	* French.
10	Classics.	Botany.	Logic.	Botany.	* German: † Mathematics.
11	Logic.	Classics.	† Mathematics.	Classics.	Classics.
12	† Mathematics.	Mathematics.	* French.	Mathematics.	Logic.
1	* German.				

THIRD YEAR.

9	History.	Classics.	† Classics: † Geol: † Math. Phy. † Anglo-Saxon.	Classics.	† Classics: † English.
10	German (*b*): † Math. Physics: † Mental Philosophy.	French, (*b*): † Men. Phil.	Mathematical Physics.	French. (*b*)	Moral Philosophy.
11	Math. Physics.	Zoology.	Moral Philosophy.	Zoology.	Mathematical Physics.
12	Moral Philosophy.	§ Experimental Physics.	Rhetoric.	§ Experimental Physics.	† Mathematical Physics.
1		Hebrew. (*b*)		Hebrew. (*b*)	German. (*b*)

FOURTH YEAR.

9	† Geology.	Astronomy (*a*): German (*b*).	† Classics.	Astronomy, (*a*) : German (*b*).	† Geology, † Classics.
10	Geology.	† M. Phy: French (*b*) : † M. Ph.	English Literature.	† Math. Phys.: † Mental Phil.	Geology.
11	Classics.	Mental Philosophy.	Classics.	Mental Philosophy.	French (*b*): † Anglo-Saxon and Early English.
12	† English.	§ Experimental Physics.	‡ Geology, † Math. Phys.	§ Experimental Physics.	German. (*b*)
1				Hebrew. (*b*)	

(*a*) During First Term. (*b*) Optional. (*c*) Except from Nov., 1st to Christmas. (*d*) For beginners entering 2nd Year. † For Candidates for Honours.
* The Student may take at his option French or German in the First two years, or, if a Theological Student, Hebrew. § From November 1st.
Classes at 1 P.M., may be changed to other hours. ‡ For Practical work.
Library open every day except Saturday, 10 to 4: Saturday 10 to 1. The Museum will be open as arranged by the Professor of Natural History.

Faculty of Applied Science.

THE PRINCIPAL (*ex-officio*).

Professors :—GIRDWOOD, HARRINGTON, BOVEY,
Lecturers :— MCLEOD, CHANDLER,

Associate Professors :—LEACH, DAWSON, MARKGRAF, JOHNSON, DAREY, MOYSE.

Dean of the Faculty :—HENRY T. BOVEY, M.A., C.E.

Librarian :—C. F. A. MARKGRAF, M.A.

The Courses of study in this Department are designed to afford a complete preliminary training of a Technical as well as a Theoretical nature, to such Students as are preparing to enter any of the various branches of the Professions of Engineering and Surveying, or are destined to be engaged in Assaying, Practical Chemistry, and the higher forms of Manufacturing Art.

Four distinct Courses of study are provided, each of which extends over four, or, under certain conditions, three years, and is specially adapted to the prospective pursuits of the Student :

(1) Civil Engineering.
(2) Mechanical Engineering.
(3) Mining Engineering.
(4) Practical Chemistry.

The Degrees conferred by the University upon such Undergraduates of this Department as shall fulfil the conditions and pass the Examination hereinafter stated, will be, in the first instance, "Bachelor of Applied Science," mention being made in the Diploma of the particular course of study pursued ; and subsequently the degree of "Master of Engineering" on those who have pursued Courses 1, 2 or 3, and of "Master of Applied Science" on those who have pursued Course 4.

Examinations for Provincial Land Surveyors :—Any Student

who has received the degree of Bachelor of Applied Science in the Course of Civil Engineering and Land Surveying, may be received as an apprentice by any Land Surveyor in Quebec, and shall be holden to serve as such apprentice for only one year. He must, however, pass the preliminary and final examinations before one of the Boards of Examiners. The former examination should be passed before entrance into the Faculty or during the First and Second Years of attendance.

Examinations for Dominion Land Surveyors :—Students in the Course of Civil Engineering will receive the necessary preparation for the Examinations for *Dominion Land Surveyors* as printed in the "*Dominion Lands Act.*"

---

§ I. MATRICULATION AND ADMISSION.

1. Candidates for Matriculation must present themselves for examination on the 15th of September, 1879. They may, however, be admitted at a later period of the Session, upon special application, if qualified to take their places in the classes in progress.

FOR ENTRANCE INTO THE FIRST YEAR, the subjects for examination will be :—

Mathematics.—Arithmetic ; Algebra, to end of Simple Equations ; Euclid's Elements, Books I., II., III.

English.—Grammar (including Analysis) Composition and the leading facts of the History of England.

Candidates in the School Examinations of the University, who have passed in Geometry, Algebra and English, may be received as matriculated Students in the First Year.

2. *The full course will extend over a period of FOUR years, but Candidates may enter the SECOND year, and thus reduce the course to THREE years*, if competent to pass a satisfactory examination in the following subjects :

Arithmetic.

Algebra.—To the end of Quadratics.

Euclid :—Books I., II., III., IV., VI., and XI., and the definitions of Book V.

Plane Trigonometry,—including solution of Triangles.

Chemistry,—Inorganic, as in Wilson's Elements.

English :—Grammar (including Analysis) Composition and the leading facts of the History of England.

French or German.—(French as in De Fivas' Grammaire des Grammaires as far as Syntax, and easy translation. German as in Schmidt's German Guide, Part I. and easy Translation).

Candidates unable to pass in Chemistry, French, or German, may be allowed by the Faculty to enter and to take the First Year lectures on Chemistry and German.

---

§ II. SPECIAL PROVISIONS.

1. Occasional Students may be admitted to the Professional Classes upon payment of special fees (§ VII).

2. Undergraduates in Arts may, if allowed by the Faculty of Arts be admitted to the Professional Classes in Practical Science on payment of the fees for these classes.

3. Students in Applied Science may, by permission of the Faculty, take the Honour Classes in the Faculty of Arts.

4. Students who have passed the Intermediate in Arts not lower than the Second Class in Mathematics, have the privilege of entering the Second Year in Applied Science, and will be exempted from the Natural and Moral Philosophy and the Greek of the Third and Fourth Years in Arts.

5. Undergraduates in Arts of the Second or Third Years, or Graduates of any University, entering the Faculty of Applied Science, may, at the discretion of the Professors, be exempted from such lectures in that Faculty as they may have previously attended as Students in Arts, but must pass all the examinations.

---

§ III. EXHIBITIONS AND PRIZES.

1. The Scott Exhibition (founded by the Caledonian Society of Montreal, in commemoration of the centenary of Sir Walter Scott).

An Exhibition of $66 on this endowment will be offered for competition at the opening of Session 1879-80 to Students entering the Fourth Year, and will be awarded to the Student who distinguishes himself the most in :—

(*a*). The Summer Report. (*b*). Macaulay's History of England, vol. I., cap. I.; Milton's "Areopagitica;" Sir Walter Scott's "Lady of the Lake." (*c*). Applied Mechanics.

1878, John S. O'Dwyer.

2. An Exhibition of $50, presented by the Professor of Civil Engineering, will be offered for competition at the opening of Session 1879-80 to Students entering the Third Year, and will be awarded to the Student who distinguishes himself the most in :—

(*a*). The Summer Report: (*b*). Mechanism. (*c*). Mathematics. (*d*). Elasticity as relating to the strength of materials.

3. A prize of $20 will be offered for competition at the opening Session 1879-80 to Students entering the Second Year, and will be awarded to the Student who distinguishes himself the most in :—

(*a*). The Summer Report. (*b*). A paper on the Mathematics of the First Year.

4. Prizes may be awarded to such Matriculated Students as shall have done satisfactory work during the Session, and have taken the first or second place in the aggregate standing in the Sessional Examinations.

§ IV. COURSE OF STUDY FOR THE SESSION 1879-80.

FIRST YEAR.

Civil Engineering.	Mechanical Engineering.	Mining Engineering.	Practical Chemistry.
Arithmetic. Euclid.	Arithmetic. Euclid.	Arithmetic. Euclid.	Arithmetic. Euclid.
Algebra. Trigonometry.	Algebra. Trigonometry.	Algebra. Trigonometry.	Algebra. Trigonometry.
Geometrical Conics.	Geometrical Conics.	Geometrical Conics.	Geometrical Conics.
Solid Geometry.	Solid Geometry.	Solid Geometry.	Solid Geometry.
Descriptive Geometry. (Optional.)	Descriptive Geometry. (Optional).	Descriptive Geometry. (Optional).	Descriptive Geometry. (Optional).
Freehand Drawing.	Freehand Drawing.	Freehand Drawing.	Freehand Drawing.
Chemistry.	Chemistry.	Chemistry.	Chemistry.
English.	English.	English.	English.
French or German.	French or German.	French or German.	French or German.

SECOND YEAR.

Mechanism.	Mechanism.	Analytical Chemistry.	Practical Chemistry.
Materials.	Materials.	Mechanism.	
Surveying	Surveying.	Surveying.	Geometrical Drawing.
Descriptive Geometry.	Descriptive Geometry.	Descriptive Geometry.	
Algebra.	Algebra.	Algebra.	
Analytical Geometry.	Analytical Geometry.	Analytical Geometry.	
Calculus.	Calculus.	Calculus.	
Mathematical Physics.	Mathematical Physics.	Mathematical Physics.	Mathematical Physics.
Experimental Physics.	Experimental Physics.	Experimental Physics.	Experimental Physics.
Zoology.	Mechanical Work.	Zoology.	Botany.
English.	English.	English.	English.
French or German.	French or German.	French or German.	French or German.

THIRD YEAR.

Applied Mechanics.	Applied Mechanics.	Applied Mechanics.	Practical Chemistry.
Materials.	Materials.	Materials.	Assaying.
Surveying.	Machinery & Millwork	Mining.	Blowpipe Analysics.
		Analytical Chemistry,	Mineralogy.
Drawing.	Drawing.	Blowpipe Analysis.	
Sphl. Trigonometry.		Drawing.	
Practical Astronomy.			
Mathematical Physics.	Mathematical Physics.		
Experimental Physics.	Experimental Physics.	Mathematical Physics.	Mathematical Physics,
Geology.	Mechanical Work.	Experimental Physics.	Experimental Physics.
French or German.	French or German.	Geology & Mineralogy.	Zoology.
		French or German.	French or German.

FOURTH YEAR.

Applied Mechanics,	Applied Mechanics.	Assaying.	Practical Chemistry.
Structures in Stone.	Machinery & Millwork.	Ore Dressing.	Metallurgy.
" Timber.	Metallurgy of Iron.	Metallurgy.	Mineralogy.
" Iron.		Geology (advanced).	Geology.
Hydraul. Engineering.	Hydraul Engineering.	Hydraul. Engineering.	
Steam Engine.	Steam Engine.	Steam Engine.	
Materials.	Materials.	Materials.	
Designs.	Designs.	Designs.	
Estimates. Specificat.	Estimates. Specificat.	Estimates. Specificat.	
Mathematical Physics.	Mathematical Physics.	Mathematical Physics.	French or German.*
French or German.*	French or German.*	French or German.*	

N.B. (1) Students in the 2nd, 3rd and 4th years will, in addition to the above, attend a series of lectures on some special departments of Engineering. The subjects for next Session will be Road Making and House Drainage.

(2) During the summer recess, the Students in the 2nd, 3rd and 4th years are to employ themselves in some mechanical work or on some public work; and they are also to prepare a report on such work, to be handed in at the beginning of the ensuing Session.

(3) Students are not allowed to take subjects which do not form part of their course, without the sanction of the Faculty.

*Modern languages not imperative in the fourth year.

§ V. EXAMINATIONS.

I. FOR THE DEGREE OF BACHELOR OF APPLIED SCIENCE.

There will be a Christmas Examination for Students of the First Year in all the Subjects, and for Students of the following years, in those Subjects which they take in the Faculty of Arts. A Sessional Examination will be held at the end of each year.

Students of the Second, Third and Fourth Years will be required to answer satisfactorily a weekly paper on such subjects of the course as shall be determined by the Faculty.

Certificates of merit may be given to such Students as take the highest places in the Degree Examinations.

Special Certificates may be given for proficiency in particular subjects.

Certificates may be given to Students who have passed the Special Courses added to the curriculum.

Students who take their Degree in one of the Courses provided by the Faculty of Applied Science, may obtain credit in either of the remaining courses by a Post-graduate Course, the necessary provision for which will be made.

II. FOR THE DEGREE OF MASTER OF ENGINEERING.

Candidates must be Bachelors of Applied Science of at least three years' standing, and must produce satisfactory certificates of having been engaged during that time upon *bona fide* work in either the Civil, Mechanical, or Mining Branch of Engineering.

They must pass with credit an Examination, which will extend over the general Theory and Practice of Engineering, in which papers will be set having special reference to that particular branch upon which they have, during the three preceding years, been engaged.

The Examination will be held once in each year, in the second week of the month of December, and will be partly written and partly *viva voce*.

Notice of the intention of a Candidate to offer himself at any Examination for this degree must be sent in, together with the necessary certificates and fees, not less than two calendar months before each Examination is to be held.

III. FOR THE DEGREE OF MASTER OF APPLIED SCIENCE.

Candidates must be Bachelors of Applied Science of at least three years' standing, must present certificates of having been employed during that time under competent guidance in some branch of scientific work, and must pass with credit an Examination in the Theory and Practice of those branches of scientific work in which they may have been engaged. The other conditions as under the last heading.

§ VI. ATTENDANCE AND CONDUCT.

The regulations under this head are in all respects the same as those in force for Undergraduates in Arts. (See page 31.)

§ VII. LIBRARY AND MUSEUM.

Students in this Department will have the same privileges with reference to the Library and Museum as Undergraduates in Arts.

§ VIII. FEES.

In the Course of Civil Engineering.—$45 ; Library. $4. In all $49 for each Session.

In the Course of Mechanical Engineering.—$45 ; Library, $4. In all $49 for each Session.

In the Course of Mining Engineering.—1st Year, $45 ; 2nd, 3rd and 4th Years, $55 ; Library, $4. In all $49 to $59 for each Session.

In the Course of Chemistry.—1st Year, $45; 2nd, 3rd and 4th Years, $55; Library, $4. In all $49 to $59 for each Session.

Matriculation Fee, for the First Year, (to be paid in the year of entrance only) $4 ; for the Second Year, (exigible from Students who enter in the Second Year, and also from those who have failed in the First Year, and re-entered the Second Year on Examination) $6.

Fee for Degree of Bachelor of Applied Science.—$10.

Fee for Degree of Master of Engineering or Master of Applied Science.—$25.

Laboratory Students are required to purchase their own chemicals, &c. The larger articles of apparatus will be supplied by the Laboratory, the Students paying $6 per Session for their use, and being responsible for breakage.

Occasional Students may be admitted to the Professional Classes in any year, by payment of the ordinary fee for that year, and $5 for entrance and use of the Library.

Students taking Blowpipe Analysis when it does not form part of their course are required to pay a fee of $5.

Occasional Students may attend the course of Instruction in Meteorology on paying a fee of $5.

§ IX. COURSES OF LECTURES.

I. CIVIL ENGINEERING AND APPLIED MECHANICS.

Professor:—HENRY T. BOVEY, M.A., C.E.

Civil Engineering.

The course of instruction in Civil Engineering will include the following:—Mechanism, Earthwork, Masonry, Carpentry, Structures of Timber, Stone and Iron, the Construction of Common Roads, Rail Roads, Bridges, Viaducts, Tunnels, Canals, River, Harbour and Sea Works, Drainage Works, Lighthouses, Works connected with Irrigation and Water Supply, &c.

Applied Mechanics.

The subject of Applied Mechanics will be treated under two heads:—

(a). The Strength of Materials, embracing a study of Work, Inertia, Energy and Entropy, the Strength, Stiffness and Resilience of Materials, Beams or Girders, Pillars, Shafts, Structures (*simple and complex*), Earthwork, Retaining Walls and Arches.

(b). Hydraulics, comprising the Theory of Hydrostatics and Hydrodynamics, the Flow of Liquids through Orifices, Pipes and Canals, the Action of a Stream on inclined or curved Vanes (*Fixed or Revolving*), Hydraulic Machines (*Pressure Engines, Vertical Water Wheels, Turbines, Centrifugal Pumps*), Pneumatics.

Steam and the Steam Engine.

The course of instruction in this Department will embrace:—The General Description of the Steam Engine, the Theory of Heat, the Application of Heat to Thermal Machines, the Production of Heat and Steam, and also:—

(*a*). The movement and distribution of Steam, including the action of Steam in a Cylinder, the methods and regulation of the distribution of Steam, Systems of Cut-off, the general disposition of Cylinders, Condensers, &c.

(*b*). The modes of transmission and a consideration of certain special machines.

(*c*). The construction of an Engine, under which head will be considered Rivets, Bolts, Screws, Sockets, Keys, Cylinders, Pistons, Organs of Distribution (*Slide, Throttle, Clack, and other Valves*), Organs of Transmission (*Connecting Rods, Beam, Plumber-blocks, Journals, Cranks, Shafting, Eccentrics*).

(*d*). The construction of Special Machines (*Locomotive*).

Designs, Estimates, &c.

Engineering Students will also prepare designs, specifications, and estimates or such works as are usually undertaken by the Engineer.

Each Student works independently, under the personal supervision of the Professor of Engineering, and makes such drawings and calculations as would be needed were the structure designed to be actually carried out.

Instruction will be given in :—

(*a*). The drawing of parts of machines from given dimensions.

(*b*). The use of geometrical drawing in arranging and designing the parts of machines, and the methods of working out various mechanical problems graphically.

(*c*). The designing of bridges, machines and engineering structures generally.

(*d*). The taking out of quantities and making of estimates from drawings.

II. MECHANICAL ENGINEERING.

Professor BOVEY and Lecturer McLEOD.

Mechanism.

The lectures on Mechanism will treat of :—The object and structure of a machine and the parts of a machine, bearings, connections *(simple and complex)*, elementary combinations and their classification shewing the various modifications of motion *(with constant or variable velocity-ratios)*, engagements *(teeth of wheels, &c.)*, adjustments.

Theory of Machines.

This Branch will comprise :—

(a). The Transmission of Work including the measurement of work, the efficiency of machines, dynamical friction, viscosity, and the methods of transmitting work *(by continuous rotation, oscillation, belts, water, and compressed air.)*

(b). The Modification of Work and Stores of Energy, embracing a study of the actual energy of moving pieces, springs and weights,

(c). Governing and Controlling Machines, including a consideration of uniform effort, variable resistance, machines driven by fluid pressure, differential governors.

(d). Balancing Machinery.

Mechanical Work.

A course of lectures will be given on the following specific Departments of Mechanical Engineering, and will treat entirely of the principles and results of actual practice :—The different classes of machinery. Belts, Gearing, Forging, Hammers (*Trip, Crank, Steam and Compound*), the Tempering of steel, Tools, Vise-work, Fitting and Finishing, Lathes and Lathe-work, Planing, Slotting and shaping Machines, Boring and Drilling, Milling and Milling tools, Screw-cutting, the Slide-valve, Standard Measures, Gauging Implements, and calculations respecting the speed of Wheels, Pullies, &c.

III. MINING ENGINEERING.

Professor.—B. J. HARRINGTON, B.A., PH.D.

The object of this course is to give Students a knowledge of the characters and mode of occurrence of various economic minerals, together with the methods employed for their extraction and subsequent treatment.

The lectures on mining are given during the Third Year, and among the subjects taken up the following may be mentioned : Blasting and the nature and use of different Explosives, Quarrying, Hydraulic Mining, Boring, the Sinking, Timbering and Tubbing of Shafts, Driving and Timbering of Levels, Underground Conveyance and Hoisting, Drainage and Pumping, Lighting and Ventilation of Mines, special methods of Exploitation employed in the working of Metalliferous Deposits or of Coal Seams, &c. During this year also, instruction is given in Blowpipe Analysis, the object of which is to enable Students by means of the blowpipe and a few simple reagents to detect the nature of different Minerals or Ores. On account of the small amount of apparatus required, and the rapidity with which accurate results may be arrived at, a knowledge of this subject will be found most useful to those engaged in geological or other field-work.

In the Fourth Year a course of lectures on Metallurgy is given, and assays are made of various Ores, Fuels, &c.

NOTE.—The lectures on Mining and Metallurgy are illustrated by a series of Models of which a list is given on page 62.

IV. SURVEYING AND DESCRIPTIVE GEOMETRY.

Lecturer.—C. H. MCLEOD, MA. E.

Surveying.

This course is designed to afford the Student such instruction as will enable him to be of immediate service upon entering the office of an Engineer or Surveyor, and to qualify him to pass all the examinations prescribed in this subject by the Dominion and Provincial Boards of Land Surveyors.

The course of instruction will be as follows :—

Second Year.—Chain Surveying. Compass Surveying. The use and adjustment of the Transit, Theodolite, Level (Dumpy, Y, and other forms), Sextant. Aneroid Barometer, Plane-table and other field instruments. Contour Surveying. Underground Surveying. Plotting and the best methods of calculating areas, both from the plot and directly from the notes.

In addition to the above this Class will, under the personal supervision of the Lecturer, make a Chain Survey of a tract of country. Each Student will be required to plot the survey from his own notes.

Third Year.—Topography. Methods of Setting out Work. Indirect and Barometric Levelling. Hydrographic Surveying. Spherical Surveying. Practical operations in the Field.

Fourth Year.—Field operations.

Note.—The Field Operations undertaken by the 3rd and 4th years will comprise a contour survey and an angular survey of a piece of ground ; the location of a line of road, including the making of preliminary surveys, the ranging of curves, the tracing, levelling and setting out of the line selected ; an Hy-

drographic Survey,—of which the two latter are done on alternate years. The Students of the 2nd and 3rd years will be required to prepare maps and sections from notes taken, by themselves, in the field.

Descriptive Geometry.

SECOND YEAR.—(1) *Linear Drawing.*—Various straight line constructions. Circles. The Conic Sections. Spirals. Involutes. Cycloids and other curves. Practical applications of the foregoing. (2) *Orthographic projection.*—The planes of projection. The projection of points, straight lines, curves and plane figures. The traces of straight lines and planes. The representation of solids including bodies bounded by planes, and solids of revolution. The penetration of solids and the development of their surfaces. Sections of solids. Helices and screws. Tangent planes and normals. (3) *Spherical projections.*—Orthographic projections of the sphere. The construction of maps, including Mercator's and Flamstead's methods. The graphical determination of spherical triangles. (4) *Isometric projections.*

THIRD YEAR.—(1) *Shades and Shadows :*—Shadows of points and lines. Brilliant points. Practical problems. (2) *Mathematical Perspective.*—The picture plane and the eye. The perspective of points and lines. Vanishing points and measuring points. Vanishing lines of planes. The perspective projection of solids. Vanishing points of rays of light and of projections of rays. The perspective of shade and shadow.

V. CHEMISTRY.

Lecturer :—B. J. HARRINGTON, B.A., PH. D.

A course of forty-five lectures, illustrated by experiments, is given to all Students of the First Year on the properties and preparation of the Non-Metallic and Metallic Elements, and many of their compounds, the laws of Chemical Combination by weight and volume, the Atomic Theory, Chemical Formulæ and Equations, characteristics of Acids, Bases and Salts, Compound Radicals, &c.

In the Second and Third Years additional instruction will be given to Students of the Mining and Chemistry Courses in the construction of apparatus, preparation of gases, &c.

VI. PRACTICAL CHEMISTRY.

Professor :— GILBERT P. GIRDWOOD, M.D.

This course will be conducted in the Laboratory of the Medical Faculty, and will be specially designed for Chemistry Students of the Third and Fourth Years. It will include instruction in the method of Qualitative and Quantitative Analysis of Inorganic and Organic Bodies, Fractional Distillation, determination of Boiling Points, Melting Points, &c.

Students taking these subjects are supposed to have already obtained in the earlier years of their course, a preliminary knowledge of the use of the Balance, Determination of Specific Gravities, Construction of Apparatus, Preparation of Gases, &c.

VII. GEOLOGY.

Professor :—J. W. DAWSON, LL.D., F.R.S. (Logan Professor of Geology.)

Assistant Professor :—B. J. HARRINGTON, B.A., Ph. D.

SECOND YEAR.—A preliminary Course in Zoology, with special reference to Fossil Animals.

THIRD YEAR.—Mineralogy, Lithology, Physical and Chronological Geology, and Palæontology, Geology of Canada, Methods of Geological Exploration.

FOURTH YEAR (Mining Students only).—Special Studies in Mineralogy and Lithology, Advanced Course in General Geology and Palæontology, Geology of Canada, Practical Geology and Field-work.

VIII. MATHEMATICS AND MATHEMATICAL PHYSICS.

Lecturer.—G. H. CHANDLER, B. A.

The lectures in this course are specially designed to meet the requirements of Students of Applied Science ; those in Mechanics being introductory to Applied Mechanics. The subjects are as follows :—

FIRST YEAR.—Euclid, books 1, 2, 3, 4, 6, with definitions of book 5.

Theories of Transversals and Harmonic Division.

Algebra, to end of Quadratic Equations.

Plane Trigonometry, including heights and distances, and the use of Logarithms.

Elements of Solid Geometry, with elementary mensuration of surfaces and solids.

Geometrical Conic Sections. The parabola and fundamental properties of the ellipse and hyperbola.

SECOND YEAR.—Continuation of Algebra. Progressions. Infinite series. Interpolation. Indeterminate coefficients. Binomial and exponential theorems. Theory of Logarithms.

Differential and Integral Calculus. Differentiation and integration of functions of one variable. Successive differentiation. Maclaurin's Theorem. Applications to Maxima and Minima and to Geometry.

Analytical Geometry. Tracing of curves. Determination of Equations. Transformation of co-ordinates. The straight line, circle, and conic sections.

Mechanics. The triangles, parallelograms and polygons of velocities, accelerations, and forces. Change of units. Inertia. Work and energy. Laws of motion. Motion in a straight line, parabola, and circle. Equilibrium of forces in one plane. Friction. Centres of gravity. Action of forces in machines. Moduli of machines. Equilibrium and pressure of liquids. Pumps, Hydraulic Cranes and Presses.

THIRD YEAR.—Spherical Trigonometry. Deduction of formulae for the solution of spherical triangles, and for the spherical excess.

Practical Astronomy. Diurnal motion. Principal methods used in the determination of Azimuth, Latitude, Longitude and Time.

Mechanics. General theory of couples. Forces in more than one plane. Additional examples on determination of centres of gravity and of pressure. The Catenary. D'Alembert's Principle. Motion about a fixed axis. Simple and compound pendulums. Moments of Inertia. Impact. Pressure and equilibrium of gases. Flow of liquids and gases through small orifices.

IX. EXPERIMENTAL PHYSICS.

Professor.—ALEXANDER JOHNSON, LL.D. (Peter Redpath Professor of Natural Philosophy.)

The lectures will embrace 1 :—*Light.*—Theories.—Reflection.—Refraction.—Dispersion.—Interference and Diffraction.—Double Refraction.—Polarisation. 2 :—*Heat.*—Dilatation of Solids, Liquids and Gases.—Specific and Latent Heat.—Radiation and Conduction.—Mechanical Theory of Heat. 3 :—*Electricity.*—Statical and Dynamical ; including Electro-Magnetism—Magneto-Electricity—Thermo-Electricity—Diamagnetism—Electric Measurements—Practical Applications to Telegraph, &c. 4 :—*Magnetism.* 5 :—*Sound.*—Theory of Undulations.—Production and Propagation of Sound.—Vibrations of Strings, Rods, and Plates.—Vibration of Fluids.—Musical Sounds. Text-book :—Ganot's Treatise on Physics, translated by Atkinson. This Course extends over two years.

The Subjects for the Session 1879-80 are Light and Heat.

X. ENGLISH LANGUAGE AND LITERATURE.

Professor.—VEN. ARCHDEACON LEACH, D.C.L., LL.D. (Molson Professor of English Language and Literature.)

Associate Professor.—CHARLES E. MOYSE, B.A.

FIRST YEAR.—English Language and Literature.

SECOND YEAR.—A special course on English Composition.

XI. FRENCH OR GERMAN.

French :—Professor P. J. DAREY, M.A., B.C.L.

German :—Professor C. F. A. MARKGRAF, M.A.

Students of this Faculty are required to take the course in one of these languages provided by the Faculty of Arts.

XII. METEOROLOGY.

Instruction in Meteorological Observations will be given in the Observatory at hours to suit the convenience of Senior Students.

Certificates will be granted to those Students who pass a satisfactory examination on the construction and use of Meteorological Instruments, and on the general facts of Meteorology.

---

§ X. LIST OF TEXT-BOOKS.

Engineering :—Rankine's Civil Engineering, Rankine's Machinery and Millwork, Rose's Complete Practical Machinist.

Applied Mechanics :—Rankine's Applied Mechanics, Downing's Hydraulics, Goodeve's Elements of Mechanism, Willis' Principles of Mechanism.

Steam.—Rankine's Steam Engine, Goodeve's Steam Engine.

Surveying :—Gillespie's Land Surveying.

Drawing :—Davidson's Linear Drawing, Davidson's Orthographic and Geometric Projection, Davidson's Perspective Projection.

Geology :—Dana's Geology, Dana's Mineralogy, Dawson's Handbook of Zoology, Nicholson's Paleontology, Geological Survey Reports, Dawson's Acadian Geology.

Blowpipe Analysis :—Brush's Determinative Mineralogy and Blowpipe.

Chemistry.—Wilson's Inorganic Chemistry.

Mathematics :—Todhunter's Euclid, Barnard Smith's Algebra, Snowball's Trigonometry, Besant's Geometrical Conic Sections, Hann and Young's Analytical Geometry, Williamson's Differential and Intregal Calculus, Goodeve's Principles of Mechanics.

§XI. MINING AND METALLURGICAL MODELS.

1.—MAN-ENGINE.—This is a large working model showing two forms of the so-called Man-engine, or Fahrkunst, for raising and lowering miners in deep mines. The Fahrkunst generally consists of two strong beams or rods of wood to which platforms are attached at intervals for the men to stand upon. The rods are suspended in the shaft and a reciprocating motion communicated to them from a steam-engine or water-wheel. When a miner wishes to ascend he simply steps upon the lowest platform ; the rod then rises for say twelve feet, and the man steps on to a platform on the opposite rod which lifts him another twelve feet, and so on until the surface is reached.

2.—BORING TOWER AND BORING TOOLS.—A model of a form of Boring-tower which has been extensively employed in Belgium, where boring operations have been carried on with great success. It is supplied with Kindt's free-falling apparatus, an ingenious contrivance for preventing the concussion from the chisel being communicated to the rods above. There are also models of several varieties of tools such as are used in extracting broken rods from bore-holes.

3.—VERTICAL SHAFT WITH-PUMPS, MAN-ENGINE, HOISTING APPARATUS, &C.—This large and beautiful model shows the way in which shafts are timbered and divided into different compartments for hoisting, for man-engine, ladder-way and pumps. It is provided with two large overshot water-wheels, supposed to be placed at a considerable distance from the surface, and affording the necessary power for hoisting as well as for working the pumps and man-engine. The ore is raised in two wooden skips supplied with guides, the one ascending while the other descends.

4.—VERTICAL SHAFT WITH PUMPS AND MAN-ENGINE.—Somewat similar to No. 3, but having only one water-wheel and no hoisting apparatus.

5.—MODEL SHOWING THE UNDERGROUND WORKING OF A MINE.—By means of this beautifully constructed model an idea may be easily obtained of the ordinary methods of working metalliferous veins of moderate thickness. It shows both shaft and galleries, different methods of timbering and walling, and exploitation by *overhand* and *underhand stoping*.

6.—TIMBERING.—Three models illustrating the partial and complete timbering of galleries.

7.—WALLING.—Three models illustrating the walling of galleries with bricks.

8.—TRAM-WAGGON.—Model of a waggon such as is used in many of the English mines. The box is of wood, strongly bound with iron ; the wheels are of iron and turn upon axles which are specially designed for use on roadways with sharp curves.

9.—SKIP.—Model of a wooden skip or box for raising ore in a vertical shaft.

10.—SKIP.—Model of a wooden skip for hoisting ore in an underlie shaft.

11.—KIBBLE.—Model of a wooden kibble or bucket for raising ore.

12.—HORSE WHIM.—Model of a form of horse-whim once extensively used

in the Saxon mining regions. The principle is the same as in the case of the ordinary whim so frequently seen in Cornwall, but the details more elaborate, as it was originally designed for permanent hoisting.

13.—HARTZ VENTILATOR OR AIR PUMP.—A simple but useful contrivance employed in the mines of the Hartz for temporary ventilation while shafts are being sunk or levels driven.

14.—STAMP BATTERIES.—Working model of three batteries of stamps for stamping ores, gold-bearing quartz, &c. Stamps like this model are employed in some parts of Europe, but those used in this country differ from it considerably.

15.—STOSSHEERD OR SHAKING TABLE.—A machine extensively used in different parts of the world for the separation of ores from the gangue or useless material with which they are commonly associated.

16.—ROTATING BUDDLE.—Like the last a machine largely used for the concentration of ores.

17.—SLIME-BOX OR TRENCH.—A kind of wooden box used for the concentration of "slimes" or pulverized ores.

18.—PATTINSON'S CONCENTRATING APPARATUS.—Model of one of the iron pots and accompanying heating apparatus used in Pattinson's process for the extraction of silver from lead.

19.—BELGIAN ZINC FURNACE.—This is an exact model of furnaces used in Belgium and elsewhere for the extraction of zinc from its ores by distillation in retorts. It shows not only the arrangement of the retorts but also the details of the heating apparatus.

20.—BLAST FURNACE.—This is a model of a blast furnace, the stack of which is supposed to be constructed of masonry. It is made in two sections so that the student may obtain a view of the details of the interior. The lining, hearth, flues for tapping off the waste gases. &c., are admirably shown.

21.—REVERBERATORY FURNACE.—Model of an English Reverberatory Furnace made in two sections so as to show the details of the interior.

---

§XII. MECHANICAL MODELS.

The collection of working Models in this Department is illustrative of

(1). The Steam Engine showing the characters of
  (*a*). Horizontal, Vertical, Locomotive or Marine Engines.
  (*b*). Link-motion and reversing gear.
(2). Various forms of parallel motion.
(3). Link-work, as employed to produce (*a*). Alternate intermittent motion. (*b*). Rotatory and Oscillatory motions with varying velocities. (*c*). Variable motion. (*d*). The motion of a Mortising Machine. (*e*). The motion

of a Combination of Hooke's Joint. (*f*). The motion of two parallel axes connected by side-rods. (*g*). Whitworth's quick return motion. (*h*). Boehm's motion of two parallel shafts. (*i*). The conversion of circular into linear motion.

(4). Rolling and sliding contact, as shown by

(*a*). Conical toothed-wheel and toothed cone on Romer's principle.

(*b*). Skew-bevils.

(*c*). Worm-wheel and worm.

(*d*). Face-plates with cross grooves.

(*e*). A Punching Machine.

(*f*). Shifting Slides and Cams to show the different forms and actions of plain cams and tappets.

(*g*). A model illustrating the various conditions of wrapping contact.

(*h*). A double rack and segmental toothed wheel producing reciprocating motion.

(*i*). Non-circular wheels.

(*j*). Spur wheels with Epycycloidal teeth.

(*k*). The motion of a Mangle-wheel.

(*l*). A set of excentric and elliptic toothed-wheels.

(*m*). A triple toothed rack producing reciprocating motion.

(*n*). The hoop and pin wheel producing intermittent motion.

(*o*). A combination producing continuous slow motion.

(*p*). The silent click.

(*q*). A model illustrating the principle of Calculating Machines.

The School possesses a valuable set of Surveying and Engineering Instruments which Students make use of during the Session, when engaged on Field-work.

LECTURES IN THE FACULTY OF APPLIED SCIENCE.

SESSION 1879-80.

YEARS.	HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
FIRST YEAR	9					
	10	Mathematics	French and German.	French.	French and German.	Mathematics
	11	English.		English.		English
	12	Chemistry.	Mathematics	Mathematics	Mathematics	Chemistry
	1					
	2	Drawing.		Drawing.		Drawing.
	3	do		do		do
	4	do		do		do
SECOND YEAR.	9	French		German.		French.
	10	German			Mathematics	German.
	11	Math.Physics	Zoology.	Math.Physics	Zoology.	Math.Physics
	12		Exp. Physics	French.	Exp. Physics	English
	1					
	2	Surveying. Materials.	Pract. Mach. & Mechanism	Surveying.	Surveying. Materials	Pract. Mach. & Mechanism
	3	Drawing.	Drawing.	Drawing.	Drawing.	Drawing.
	4	do	do	do	do	do
THIRD YEAR.	9			Geology.*		
	10	Geology.	French.	Mathematics	French.	Geology.
	11		German		German	
	12	Math.Physics	Exp. Physics	Geology.	Exp. Physics	Math.Physics
	1					
	2	Machinery. Anal. Chem.	App.Mech.	Drawing. Blowpiping	Machinery Anal. Chem.	App. Mech.
	3	Surveying	Drawing.	Drawing.	Surveying	Drawing.
	4	Drawing.	Mining.	do	Drawing.	do
FOURTH YEAR.	9	Geology.*	Design., &c.	Design., &c.	Design., &c.	Geology,*
	10	Design., &c.	do	do	do	
	11	do	do	do	do	
	12	do	do	do	do	
	1					
	2	Assaying † Machinery.	Strength of Materials.	do	Assaying † Mech.work	Strength of Materials.
	3	Assaying † Construction.	Steam.	do	Assaying † Roads, &c.	Hydraulics.
	4	Assaying †		Ore-dress'g * Metallurgy †	Assaying †	Steam.

* For Mining Students only. † For Students in Mining and Chemistry.

Field work for 2nd and 3rd years on Mondays, Wednesdays and Fridays during September and October.

Practical Chemistry extends from October 1st. to April, from 2 p.m. to 4, Monday, Wednesday and Friday.

Faculty of Medicine.

———o———

THE PRINCIPAL, (ex-officio.)

Professors :—CAMPBELL,	Professors :—DRAKE,
SCOTT,	GIRDWOOD,
WRIGHT,	ROSS,
HOWARD,	OSLER,
MCCALLUM,	RODDICK,
CRAIK,	GODFREY,
FENWICK,	GARDNER.

Dean of the Faculty.—G. W. CAMPBELL, A.M., M.D., LL.D.

Registrar.—W. OSLER, M.D.

Demonstrator.—FRANCIS J. SHEPHERD, M.D.

Asst. Demonstrator and Curator of Museum.—R. L. MACDONNELL, B.A., M.D.

The forty-seventh Session of the Medical Faculty of McGill University will be opened on Wednesday, October 1st, 1879, with a general Introductory Lecture at 11 a. m. The regular lectures will begin on Thursday the 2nd Oct., at the hours specified in the time-table, and will be continued during the six months following.

The Medical College, a large and substantial building situated within the University Grounds, contains two spacious class rooms, Students' waiting-room, Library, Museum, Laboratories, together with a large and well furnished Dissecting-room.

The class tickets for the various courses are accepted as qualifying candidates for examination before the various Colleges and licensing bodies of Great Britain and Ireland, and the College of Physicians and Surgeons of Ontario.

To meet the circumstances of the General Practitioners in British North America, where there is no division of the profession into Physicians and Surgeons exclusively, the degree awarded upon graduation is that of "Doctor of Medicine and Master of Surgery," in accordance with the general nature and character of the curriculum, as fully specified hereafter. The degree is received by the College of Physicians and Surgeons of the Province of Quebec.

I.

MATRICULATION.

(a) University Matriculation Examination.

This examination is the same as that recommended by the Medical Council of Great Britain. Examinations in conformity therewith, will be held the last Saturday in March and the first Saturday in October of each year. Applications may be made to the Registrar of the Faculty till the evening of the previous day. The requirements of the standard for Matriculation are :—"Compulsory—English Language, including grammar and composition; "Arithmetic, including vulgar and decimal fractions; Algebra, including simple equations; Geometry, first two books of Euclid; "Latin, translation and grammar;—and one of the following "optional subjects :—Greek, French, German, Natural Philosophy, "including mechanics, hydrostatics, and pneumatics."

TEXT BOOKS.—Latin,—Cæsar, Commentaries, Bk. I. or Virgil, Æneid, Bk. I.

GREEK.—Xenophon, Anabasis Bk. I., or equivalent.

FRENCH.—Charles XII., Two Books.

NATURAL PHILOSOPHY.—Ganot's Physics.

Graduates in Arts of recognized Universities are not required to submit to the Matriculation Examination, and a certificate of having passed this Examination before the College of Physicians and Surgeons of Ontario or of Quebec will be accepted by this University.

Students of the Provinces of Quebec and Ontario are required by the laws of those Provinces to pass the matriculation examinations of the provincial Medical Boards. In Ontario, Graduates in Arts are exempted from this examination.

(b) Matriculation Examination of College of Physicians and Surgeons of the Province of Quebec.

The subjects of examination are as follows :—

Compulsory Subjects :—English, French, Latin, Arithmetic, Algebra, Euclid, History, Geography, Belles-Lettres.

Optional Subjects :—Candidates can select any one of the following :—Greek, Natural and Moral Philosophy.

The Examinations will be held upon the 19th of September 1879, at Quebec, and on the 12th of May, 1880, at Montreal. Applications to be made to Dr. Dagenais, Montreal, or Dr. Belleau, Quebec.

Examination Fee, ten dollars. Should the candidate be unsuccessful, one half the fee will be returned.

Of the four years study *after* having passed the Matriculation Examination, three six months' sessions, at least, must be attended at a University, College, or Incorporated School of Medicine, recognized by the "Provincial Medical Board," and the first session must be attended during the year immediately succeeding the Matriculation Examination.

(c) Matriculation Examination of the College of Physicians and Surgeons of the Province of Ontario.

The examination is held in Toronto and in Kingston on the first Tuesday and Wednesday after Good Friday, and the third Tuesday and Wednesday in August of each year. It is compulsory upon all Students of the Province of Ontario. Graduates in Arts are exempted.

The subjects are as follows:—English Language, including grammar and composition ; Arithmetic, including vulgar and decimal fractions ; Algebra, including simple equations ; Geometry, first two books of Euclid ; Latin, translation and grammar ; and up-

on one of the following subjects (of which Students are recommended to select either Natural Philosophy, or one of the Modern Languages), the candidate having the option of naming the subject upon which he will be examined, viz.—Greek, French, German, Natural Philosophy, including mechanics, hydrostatics and pneumatics.

Text Books.—Where more than one is named, the candidate may select one upon which he will prefer to be examined, viz :

Latin—Cæsar, *Commentaries on Gallic War*, fifth and sixth books; Cicero, *Manilian Law;* Virgil, *Æneid*, second book.

Greek—Xenophon, *Anabasis*, first book.

French, Voltaire, *Charles XII.*, 6th, 7th and 8th books.

German—Adler's Reader, first part.

Natural Philosophy—Peck's Ganot; Sangster's first Book.

Intending Students are advised to pass their Matriculation in the Spring, in order to comply with the law, which requires four full years of professional study.

II.

ENREGISTRATION.

The following are the University Regulations :—

All Students desirous of attending the Medical Lectures shall, at the commencement of each Session, enrol their names and residences in the Register of the Medical Faculty, and procure from the Registrar a ticket of Enregistration, for which each Student shall pay a fee of $4; excepting in the Clinical Classes, in which enregistration for Students of other Schools shall not be compulsory.

The said Register shall be closed on the last day of November, in each year, and no tickets obtained from any of the Professors shall be received without previous enregistration.

Enregistration in the Summer Session is compulsory upon all Students whether attending one or more of the Classes.

III.

COURSES OF LECTURES.

1 Anatomy.—[Prof. Scott.]—The importance of Anatomy, both descriptive and in its relation to Medicine and Surgery, is duly con-

sidered by the Professor, who employs chiefly the fresh subject in the illustration of the lectures, aided however, by dried preparations, wax models, plaster casts of dissections, plates, &c., the full size of life.

2 Practical Anatomy.—[Drs. Shepherd and MacDonnell.]—Special attention is devoted to this important branch, the teaching being similar to that of the best European schools. The Dissecting-Room is open from 8 a. m. to 10 p. m.; the Demonstrators' hours are from 10 to 12 a. m., and 8 to 10 p. m. Special Demonstrations on the Brain, Thorax, Abdomen, Bones, etc., are frequently given. Every Student must be examined *at least* three times on each part dissected, and if the examinations are satisfactory a certificate is given. Prizes are awarded at the end of the Session for the best examination on the fresh subject. Material provided under cost.

3 Chemistry.—[Prof. .]—Inorganic Chemistry is fully treated: a large portion of the course is devoted to Organic Chemistry and its relations to Physiology. The branches of Physics bearing upon or connected with Chemistry also engage the attention of the Class. For experimental illustration, abundant apparatus is possessed by the Professor, among which may be enumerated, a powerful Air Pump—Oxy-Hydrogen Microscope—Polariscope—extensive series of Models of Crystals, Electrical and Galvanic apparatus, Steam engine, &c., &c.

4 Practical Chemistry.—[Prof. Girdwood.]—Thorough instruction is given in the different departments of Practical Chemistry in the Laboratory of the Faculty, under the personal supervision of the Professor. The course includes blowpipe manipulations, qualitative and quantitative analysis, toxicological investigations, &c., &c. This class may be taken in the Summer Session.

5 Institutes of Medicine.—[Prof. Osler and Assistant.]—Embraced in this course are the following classes :—

(*a*) **Physiology,** comprising,

(1) A full course of didactic lectures upon the structure and functions of the various organs of the body in health. The lectures are illustrated by fresh preparations, diagrams, plates and models, and, when practicable, by experiments.

(2) Practical demonstrations, held every Saturday from 2 to 4 p. m. In this class a complete series of histological preparations is exhibited and explained. Specimens illustrative of physiological anatomy and practical physiology are also shown, and the Students invited to propound and discuss any questions which may not have appeared clear to them.

(3) Practical Histology—normal and pathological. A course of 25 lessons—Microscopes, re-agents and material provided. This course is generally held during the Summer Session, but will also be conducted during the Winter if a class of 10 Students be formed. It comprises thorough instruction in the use of the Microscope and the preparation of the tissues, each Student preparing for himself during the course a cabinet of 100 or more specimens.

(*b*) **Pathology**, comprising,

(1) A limited number of lectures on General Pathology, which are included in the systematic course on the Institutes.

(2) Pathological Demonstrations—weekly—Saturday, 11 a. m. This course is based upon, and conducted, as far as possible, in the same way as that of Prof. Virchow, at the Berlin Pathological Institute. Specimens of all kinds are collected throughout the week, kept fresh until Saturday and then brought before the class, when practical comments are made upon them. An idea of the amount of material at command may be gathered from the fact that over 150 fresh pathological specimens, illustrative of almost all the common forms of disease, were laid before the class during the past session.

(3) Instruction in Post-mortems—The Autopsy Room of the General Hospital is in charge of the Professor, and the post-mortems are performed by the Students in rotation, under his supervision. System and thoroughness in inspection are insisted upon, the method followed being that of Virchow. As far as possible, attention is drawn to the Medical Anatomy of the thoracic and abdominal organs. In connection with this class, aided by the Professor of Medical Jurisprudence, two Coroner's Inquests will be conducted during the Session before the class, and the Medico-legal aspects of post-mortems dwelt upon.

6 Materia Medica.—[Prof. Wright.]—In this course the ordinary Medicines officinal in the British Pharmacopœia are taken up in classes according to their chief actions, and described under the various heads peculiar to Pharmacology. The Therapeutics of each are fully detailed, under the effects that follow from different doses. Those from toxic or over-doses are added, together with the mode of treatment, etc. The course is illustrated from a cabinet of the various drugs and their preparations, and the plates of Wagner, Roque, Stevenson and Churchill are also shewn. Analytical experiments with the ordinary re-agents are exhibited.

7 Theory and Practice of Medicine.—[Prof. Howard.]—While the lectures on this subject are mainly devoted to Special Pathology and Therapeutics, the department of General Pathology in this University being included in the Institutes of Medicine, no opportunity is lost of illustrating and explaining the *general* laws of disease. With the exception of certain affections seldom or never observed in this country, all the important diseases of the body, not described from the chairs of Surgery and Obstetrics, are discussed, and their Pathological Anatomy illustrated by the large collection of morbid preparations in the University Museum, and by fresh specimens contributed by the Demonstrator of Morbid Anatomy.

The College possess an extensive series of Anatomical plates illustrative of the histological and anatomical appearances of disease, and the wards of the General Hospital afford the lecturer ample opportunities to refer to living examples of very many of the maladies he describes and to give the results of treatment.

8 Clinical Medicine.—[Prof. Ross.]—Attendance is given in the Medical Wards of the Montreal General Hospital on three days of every week. Accurate reports of all cases are kept by duly appointed clinical clerks, and are systematically read before the class. Instruction is given by the bedside and special inducements are offered to every pupil to take part in the physical examination of patients. The mode of conducting investigations, the use of the microscope, the value of the thermometer and ophthalmoscope,etc., in Medical Diagnosis, are all explained and illustrated. Senior Students are called upon in rotation to examine new cases before the class, and to be examined thereon as to their general knowledge.

In addition, one weekly Clinical Lecture is delivered bearing upon some case or cases of importance which may happen to be under observation at the time. Special attention is directed to Medical Anatomy, and candidates for the degree will be examined thereon.

9 Surgery.—[Prof. Fenwick.]—Divided into Principles and Practice,including Surgical Anatomy and Operative Surgery,exhibited on the subject. The various surgical instruments and apparatus are exhibited, and their uses and applications explained and practically illustrated.

10 Clinical Surgery.—[Prof. Roddick.]—This course is eminently practical, consisting of bedside instruction and lectures delivered weekly, illustrative of Surgical cases actually present in the wards of the General Hospital. The class is taken charge of by the Teacher on alternate days, when the reports of the Clinical clerks are read and criticized, and fresh cases examined by the senior Students. The Surgical dressings are, as much as possible, reserved for these occasions, so as to give all present an opportunity of participating in the application of splints to fractures, dressing of wounds, minor operations, etc. Major operations are performed in the spacious theatre attached to the Hospital, which is so admirably constructed that the most distant can generally obtain a fair view of the operation. This is also used as a Lecture Room by the Clinical Professors. All of the recently invented appliances for the treatment of Surgical disease have been introduced into the Hospital, prominent among which is a complete outfit of Lister's Antiseptic Apparatus, so that this excellent method of treating wounds is now almost universally adopted.

11 Midwifery.—[Prof. McCallum.]—Including diseases of women and children, illustrated by a series of drawings on a large scale, by humid preparations, by models in wax, by the use of the artificial Pelvis, and by cases in the wards of the Lying-in Hospital.

12 Medical Jurisprudence.—[Prof. Gardner.]—This course includes *Insanity*, to which a good deal of attention is devoted, the subject being treated of in its Medical as well as Medico-legal aspects. One or two lectures are devoted to the treatment of insanity. Special attention is devoted to the subject of blood stains,

the Clinical, Microscopical and Spectroscopical tests for which are fully described and shown to the class. The various spectra of blood in its different conditions are shown by the Sorby-Browning Micro-spectroscope, so well adapted for showing the reactions with exceedingly minute quantities of suspected material. Recent researches in the diagnosis of human from animal blood are alluded to. In addition to the other subjects usually included in a course of this kind, Toxicology is taken up. The modes of action of poisons, general evidence of poisoning and classification of poisons are first treated of, after which the more common poisons are described with reference to symptoms, post mortem appearances, and chemical tests. The post mortem appearances are illustrated by plates and the tests are shown to the Class.

13 Hygiene and Public Health.—[Prof. Godfrey.]—A three months' course of Lectures will be delivered on this subject, the attendance upon which is now compulsory.

14 Opthamology and Otology.—[Dr. Buller.]—Will include a course of lectures on diseases of the Eye and the Ear, both Didactic and Clinical. In the former the general principles of diagnosis and treatment will be dealt with; in the latter, cases illustrative of the typical forms of ordinary diseases of these organs will be exhibited and explained to the class, and afterwards placed under the special care of gentlemen who may show themselves competent to take charge of them. A Course of Operations on the Cadaver will be open to such Students as may wish to avail themselves of the same.

15 Botany and Zoology.—[Prof. Dawson.]—The Course in Botany is illustrated by specimens, diagrams, models, and the microscope. Students have access without any additional fee to the lectures in Zoology in the Faculty of Arts, and to the Natural History Museum of the University and the Museum of the Natural History Society of Montreal.

16 Helminthology.—A course of six lectures on the Parasitic Diseases of Man and the Domestic Animals. (Prof. Osler). The life history and development of the Entozoa, together with the diseases caused by them, are fully considered. The lectures are illustrated by a series of beautiful diagrams, and by fresh and prepared specimens.

The following are extracts from the University Regulations with respect to the courses of Lectures :

1st. Each Professor shall deliver at least five Lectures during the week, except in the classes of Clinical Medicine and Clinical Surgery, in which three bedside demonstrations and one Clinical Lecture shall be given ; and in that of Medical Jurisprudence, if extended through six months, in which case three Lectures a week will suffice.

2nd. Every Lecture shall be of one hour's duration.

3rd. Every Professor shall occasionally examine his class upon the subjects treated of in his preceding Lectures, and every such examination shall be considered a Lecture.

4th. A roll of the names of the Students attending each class shall be called from time to time.

IV.

QUALIFICATIONS FOR THE DEGREE.

The following are extracts from the Regulations respecting the qualifications of Candidates for the Degree in Medicine.

1st. No one shall be admitted to the Degree of Doctor of Medicine and Master of Surgery, who shall not either :—1st, have attended Lectures for a period of at least four six months' sessions in this University, or some other University, College, or School of Medicine, approved of by this University ; or, 2ndly, have studied medicine during at least four years, and during that time have attended Lectures for a period of at least three six months' Sessions, either in this University, or some other University, College, or School of Medicine, approved of by this University.

2nd. Candidates for the Final Examination shall furnish Testimonials of attendance on the following branches of Medical Education, viz :—

Anatomy. *Chemistry.* *Materia Medica and Pharmacy.* *Institutes of Medicine.* *Principles and Practice of Surgery.* *Midwifery and Diseazes of Women and Children.* *Theory and Practice of Medicine.* *Practical Anatomy.* *Clinical Medicine.* *Clinical Surgery.*	*Of which two Courses will be required of six months' duration.*
Medical Jurisprudence.	*Of which one Course of six months' or two Courses of three months' will be required.*

Practical Chemistry.
Botany or Zoology.
Hygiene.
} *Of which one Course will be required of three months' duration.*

And a Course of not less than twenty-five Demonstrations upon Microscopic Anatomy, Physiology and Pathology.

Provided, however, that Testimonials equivalent to, though not precisely the same as those above stated may be presented and accepted.

3rd. The Candidate must give proof by ticket of having attended during eighteen months the practice of the Montreal General Hospital, or that of some other Hospital approved of by this University, and have compounded medicines for six months.

4th. He must also give proof by ticket of having attended for at least six months the practice of the University or other Lying-in-Hospital approved of by this University, and of having attended at least six cases of accouchement.

5th. No one shall be permitted to become a Candidate for examination who shall not have attended at least one Session of this University, and one full course of all the branches included in its curriculum.

6th. Courses of less length than the above will only be received for the time over which they have extended.

7th. Every Candidate for the Degree must on or before the fifteenth of February, present to the Dean of the Medical Faculty testimonials of his qualifications, entitling him to an examination, and must at the same time deliver to the Dean of the Faculty the following Certificate :—

MONTREAL,———18—

I, the undersigned, being desirous of obtaining the Degree of Doctor of Medicine and Master of Surgery, do hereby declare that I have attained the age of twenty-one years, or (if the case be otherwise), that I shall have attained the age of twenty-one years before the next graduation day, and that I am not (or shall not be at that time) under articles as a pupil or apprentice to any Physician Surgeon, or Apothecary. (Signed,) A. B.

8th. The trials to be undergone by the candidate shall be such as referred to under Section V.

9th. The following Oath or affirmation, will be exacted from the Candidate before receiving his degree.

SPONSIO ACADEMICA.

In Facultate Medicinæ Universitatis.

Ego, A———B———, Doctoratus in Arte Medica titulo jam donandus, sancto coram Deo cordium scrutatore, spondeo ;—me in omnibus grati animi officiis, erga hanc Universitatem ad extremum vitæ halitum, perseveraturum, tum porro, artem medicam, caute, caste et probe exercitaturum ; et quoad in me est, omnia ad ægrotorum corporum salutem conducentia, cum fide procuraturum ; quæ denique, inter medendum, visa vel audita silere conveniat, non sine gravi causa vulgaturum. Ita præsens mihi spondenti adsit Numen.

10th. The Fee for the Degree of Doctor of Medicine and Master of Surgery shall be twenty dollars, to be paid by the successful candidate immediately after examination, together with a Registration fee of one dollar.

11th. The money arising from the fees of Graduation, as well as those of Enregistration, shall be applied to the enlargement of the Medical Library and Museum, and to defraying their expenses.

V.

EXAMINATIONS.

In each class a weekly examination is held to test the progress of the Student; and in addition two or three written examinations are given throughout the Session.

The examinations at the close of each Session are arranged as follows:

1st Year—Sessional Examination.

ANATOMY.—Bones, Ligaments, Muscles, Viscera.

PHYSIOLOGY.—The Tissues, Blood, Circulation, Respiration, Digestion.

CHEMISTRY.—*Chemical Physics.*—Molecular Forces; Heat, Light, Electricity and Magnetism.

Chemical Philosophy.—Laws of Combination; Nomenclature; Symbolic Notation, Classification of Elements.

MATERIA MEDICA.—Preparation, Characters, and Adulterations of Medicines.

PRACTICAL ANATOMY.—Bones, Ligaments, Muscles, Viscera.

BOTANY.

2nd Year—Primary, Pass Examination.

ANATOMY.

PRACTICAL ANATOMY.

PHYSIOLOGY.

CHEMISTRY.

PRACTICAL CHEMISTRY.

MATERIA MEDICA.

3rd Year—Sessional Examination.

MEDICAL JURISPRUDENCE WITH TOXICOLOGY.

HYGIENE.*—

MEDICINE.—Classification of Diseases, Pathology of Zymotic diseases. Continued, periodical and eruptive fevers. Constitutional diseases, diseases of Kidney.

SURGERY.—Surgical Pathology, Wounds, Fractures, Dislocations.

MIDWIFERY.—Organs of generation of the female and changes in them which result from conception. Signs of Pregnancy—Diseases of Pregnancy—Pelvis and its deformities.—Mechanism of Labour.

4th Year—Final Pass Examination.

MEDICINE.

SURGERY.

MIDWIFERY.

CLINICAL MEDICINE.

CLINICAL SURGERY.

MEDICAL ANATOMY.

SURGICAL ANATOMY.

By means of the above arrangement a certain definite amount of work must be accomplished in each year and, moreover, an equitable division is made between the Primary and Final branches.

It was not thought advisable that Students should *pass* finally on important subjects of the Primary branches at the end of the first year, hence the second year examination embraces the whole range of the Primary subjects, and the same holds good for the Final branches in the 3rd and 4th Year, with the exception of Medical Jurisprudence and Hygiene, which may be finally passed at the end of the 3rd Year.

The Sessional Examinations at the close of the 1st and 3rd Years are compulsory upon all Students, and they will be rated according to merit.

With regard to the Primary Examination at the end of the 2nd

*—May be taken at the end of the Second Year.

Year, it remains optional with the Student whether he passes in all the branches or leaves two for the 3rd Year. In any case, Chemistry and one other must be taken at the close of the 2nd Year.

VI.

MEDALS AND PRIZES.

1st. The Holmes Gold Medal, awarded to the Student of the graduating class who receives the highest aggregate number of marks for the best examinations, written and oral, in both Primary and Final branches.

2nd. A prize in books awarded for the best examination, written and oral, in the final branches. The gold medallist is not permitted to compete for this prize.

3rd. A prize in books awarded for the best examination, written and oral, in the primary branches.

4th. The Sutherland Gold Medal, awarded for the best examination in Theoretical and Practical Chemistry, together with creditable examination in the Primary branches.

A prize in books for the best examination in the senior and junior Class in Practical Anatomy.

A prize in books for the best examination in Botany, and a prize for the best collection of plants.

VII.

FEES.

Lectures.

Practice of Medicine,	one course	$12.00
Clinical Medicine,	"	12.00
Surgery,	"	12.00
Clinical Surgery,	"	12.00
Obstetrics and Gynæcology,	"	12.00
Medical Jurisprudence,	"	10.00
Anatomy,	"	12.00
Institutes of Medicine (Physiology & Pathology)	"	12.00
Chemistry,	one course	$12.00
Chemistry, Practical,	"	12.00
Practical Anatomy,	"	10.00
Botany and Zoology	"	5.00

Matriculation,	"	5.00
Enregistration, (each Session)	"	4.00
Degree,	"	20.00
Registration of Degree,	"	1.00

HOSPITAL FEES.

Montreal General Hospital.

Six months,	$ 8.00
Twelve months,	12.00
Perpetual,	20.00

Lying-in-Hospital.

Six months,	8.00
Summer Session,	**10.00**
Practical Histology,(Microscopes and reagents provided)	15.00

Any Student after having paid the fees and attended two courses of any class shall be entitled to a perpetual ticket for that class, except the following :—Practical Anatomy, Practical Histology and Practical Chemistry.

N. B.—All Fees are payable strictly in advance.

VIII.

TEXT-BOOKS.

ANATOMY.—Gray, Wilson, Sharpey and Quain.

PRACTICAL ANATOMY.—Heath's and Ellis' " Dissectors," Holden's Dissector and Landmarks.

CHEMISTRY.—Fownes, Miller, Roscoe.

PRACTICAL CHEMISTRY.—Odling, Galloway, Fresenius.

MATERIA MEDICA.—Pereira's Manual by Farre, Bently and Warrington.

INSTITUTES OF MEDICINE.—*Physiology.*—Kirke's Hand-Book, Dalton, Carpenter, Huxley, Foster. *Pathology.*—Green, Rindfleish, Jones & Sieveking, (by Payne) Wilks & Moxon,Virchow, on Post-Mortems, Orth's Compendium.

PRACTICAL HISTOLOGY.—Rutherford, Schafer.

SURGERY.—Holmes' Surgery, Erichsen, Druitt, Bryant.

PRACTICE OF MEDICINE.—Aitken, Wood, Watson, Roberts, Da-Costa, Flint.

MEDICAL JURISPRUDENCE.—Taylor's Jurisprudence, Guy and Ferrier's Forensic Medicine, Woodman & Tidy's Handbook, Maudsley on Insanity, Shepherd's Lectures on Madness.

MIDWIFERY.—Churchill, Ramsbotham, Cazeaux, Leishman, Playfair.

HYGIENE.—Parks, Hammond, Wilson.

IX.

MUSEUM.

Most of the usual Pathological specimens are collected here, obtained from Hospital and private practice. They are largely used in illustrating the lectures on Medicine and Surgery. There are also wax and papier-mache models.

Graduates of the University are invited to contribute specimens.

X.

LIBRARY.

This comprises between four and five thousand volumes, including all the standard text-books and works of reference, together with complete files of the leading periodicals. Students may obtain books on making a deposit of $4.00, which is refunded on returning the volumes.

XI.

McGILL MEDICAL SOCIETY.

This Society, composed of enregistered Students of the Faculty, meets once a week during the Summer Session, and fortnightly during the winter, for the reading of papers and the discussion of medical subjects. It is presided over by a physician chosen by the members.

A reading room has been established in connection with the Society, in which the leading English and American medical journals are on file.

XII.

COST OF LIVING, &c.

This will, of course, vary with the tastes and habits of the Student, but the necessary expenses need not exceed those in smaller towns. Good Board may be obtained from $14 to $20 per month. A list of Boarding-houses is prepared annually by the Secretary of the University, and may be procured from the Janitor at the Medical College.

XIII.

HOSPITALS.

MONTREAL GENERAL HOSPITAL.

The Montreal General Hospital affords ample means for the instruction of Students in Clinical Medicine and Surgery. The daily number of beds occupied by patients averages from 130 to 140, and during epidemic visitations has reached a much higher number. The Governors have also erected a Hospital for Children, contiguous to the Reid Wing of the present building. The Students have thus an opportunity of becoming familiar with nearly all the diseases of suffering humanity, and with the peculiarities imparted to them by infancy, adolescence, maturity and declining age.

The large number of out-door patients that are treated in the Hospital, averaging from sixty to seventy daily—supply illustrations of most of the diseases of infants and children, of very many of the eye and skin, and of those chronic and ill-defined ailments which, as they do not require admission to the wards of a hospital, would not otherwise come under the observation of the Student, although, on account of their variety and frequency, they are of great importance to the Physician.

The large number of patients affected with diseases of the eye and ear, now attending the out-door department, will afford Students ample opportunity to become familiar with all the ordinary affections of those organs, and to make themselves proficient in the use of the ophthalmoscope, and it is hoped that every Student will thus seek to gain a practical knowledge of this important branch of Medicine and Surgery. Operations are performed on the eye, by Dr. Buller, after the out-door patients have been seen, and Students are invited to attend the same,and as far as practicable to keep such cases under observation so long as they remain in the Hospital.

The shipping contributes many examples of accidents and surgical cases.

CLINICAL CLERKS to both medical and surgical wards are appointed every three months, and each one during his term of service conducts, under the immediate direction of the Clinical Professors, the reporting of all cases in the ward allotted him. The holding of one of these offices is found to be of the greatest possible advantage

to Students, as affording the most real *practical* training for his future professional life. They will be awarded on application at the end of each Session to past primary Students of that year, in order of their standing in the primary examination.

DRESSERS are also appointed to the Surgical wards and to the Out-door Department. For these appointments application is to be made to the Professor of Clinical Surgery, and to the Out-door attending Physicians.

The Operating Room (used also for a lecture room) is so constructed as to enable the Students to obtain a good view of the operations.

MONTREAL DISPENSARY,

ST. ANTOINE STREET.

About 10,000 patients yearly are treated at this Institution. The cases are of great variety, comprising a large number of pulmonary affections and childrens' diseases. Minor operations are of daily occurrence, and excellent practice is afforded in the application of splints and bandages. The attending Physicians furnish Students with all possible facilities. The hours of attendance are from 12—2 daily.

UNIVERSITY LYING-IN HOSPITAL.

This is under the direction of the Professor of Midwifery. Students who have already attended one course of his lectures, are furnished with cases in rotation; they are advised to attend this Institution as much as possible during the Summer, when, since there are as many patients and not so many pupils as in Winter, a larger proportion of cases falls to the share of each. Moreover, in this way more attention can be given to their duties during the winter.

The Assistant to the Professor of Midwifery attends each case, and gives instruction to the students in the methods of examination and the diagnosis of presentations.

UNIVERSITY DISPENSARY FOR DISEASES OF WOMEN.

Clinical instruction to Senior Students will be given thrice weekly at this Institution, 107 St. Urbain Street.

XIV.

PAST SESSION.

The total number of students enregistered in this Faculty during the past year was 166, of whom there were, from—

Ontario,	87,	New Brunswick	7,
Quebec,	51,	P. E. Island,	3,
Nova Scotia,	3,	Newfoundland,	1.

United States, 14.

The following gentlemen, 40 in number, have passed their Primary Examinations on the following subjects: Anatomy, Chemistry, Materia Medica and Pharmacy, Institutes of Medicine and Botany and Zoology. Their names, and residences are as follows:

NAME.	RESIDENCE.
Ayer, N	Woodstock, N.B.
Browne, T. L	Ottawa, O.
Beer, Charles N	Charlottetown, P.E.I.
Cameron, P	Williamstown, O.
Church, F. W	Aylmer, Q.
Cahalan, J	Wyandotte, Mich.
Cowley, D. K	Ottawa, O.
Dibblee, G. O	St. Stephens, N.B.
Edwards, J. S	London, O.
Fielde, E. C	Prescott, O.
Fraser, H. D	Pembroke, O.
Gray, W. L	Pembroke, O.
Heyd, H. E	Brantford, O.
Higginson, H. A	L'Orignal, O.
Henderson, A	Montreal, Q.
Josephs, G. E	Pembroke, O.
Laurin, E. J	Montreal, Q.
Lang, W. A	St. Marys, O.
Maas, R. L	Negaunee, Mich.
Mignault, L. D. B.A	Montreal, Q.
McDonald, M. C	Montreal, Q.
McDonald, J. A	Panmure, P.E.I.
McDonald, R. T	Montreal, Q.
Mackenzie, K	Melbourne, Q.
Mackenzie, B. E. B.A	Aurora, O.
McLaren, D. C. B.A	Montreal, Q.
McGannon, E. A	Prescott, O.
O'Calaghan, T. A. B.A	Worcester, Mass.
Pringle, A. F	Cornwall, O.

Pulford, F. W.	Detroit, Mich.
Ross, G. T.	Montreal, Q.
Ross, J. W.	Winthrop, O.
Ruttan, A. M	Napanee, O.
Riordan, B. L.	Port Hope, O
Rogers, E. J	Peterboro, O.
Stewart, J.	St. Anicet, Q.
Serviss, F. W.	Iroquois, O.
Smith, E. H.	Montreal, Q.
Snow, W. H.	Dundas, O.
Struthers, R. B.	Phillipsburg, O.

W. C. Perks, Port Hope, has passed the written, but owing to illness was unable to present himself for the oral examination.

The following gentlemen, 37 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M., from this University. These exercises consist in examinations, both written and oral, on the following subjects: Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Women and Children, Medical Jurisprudence and Hygiene,—and also Clinical Examinations in Medicine and Surgery conducted at the bedside in the Hospital:—

NAME.	RESIDENCE.
Brown, J. L.	Chesterfield, O.
Burwash, Henry J.	St. Andrew's, Q.
Butler, Billa F.	Stirling, O.
Carman, Philip E.	Iroquois, O.
Carman, John B.	Iroquois, O.
Chisholm, Murdoch	Loch Lomond, N.S.
Case, William	Hamilton, O.
Gray, Thomas	Brucefield, O.
Groves, George H.	Carp, O.
Gurd, David F.	Montreal, Q.
Hart, George C.	Osnabrook Centre, O.
Hanna, Franklin	Harlem, O.
Henwood, Alfred J.	Brantford, O.
Imrie, Andrew W	Spencerville, O.
Irwin, J. L.	Montreal, Q.
Jackson, Joseph A.	Lawrence, N.Y.
Jamieson, Chas. J.	Ottawa, O.
Lawford, John B	Montreal, Q.

Lefebvre, John M.....Toronto, O.
Lloyd, Hoyes W.....Strathroy, O.
Lyford, Chas. C.....Roscoe, Ill.
McArthur, John A.....Underwood, O.
McCully, Oscar J. M.A.....Sussex, N.B.
McCullough, George.....St. Marys, O.
McGuigan, William J.....Stratford, O.
McNee, Stuart.....Perth, O.
Menzies, John B.....Almonte, O.
Riley, Oscar H.....Franklin, Vt.
Rutherford, M. C.....Waddington, N.Y.
Scott, John G.....Ottawa, O.
Seymour, Maurice M.....Chesterville, O.
Shaw, William F.....Ottawa, O.
Smith, John.....Torbolton, O.
Spencer, Richmond.....Montreal, Q.
Sutherland, William R.....Montreal, Q.
Weagant, Clarence A.....Dundas Co., O.
Williston, Hedley V. M. A.....Newcastle, N.B.

Frank Buller, M.D., M. R. C. S. Eng., Lecturer on Diseases of the Eye and Ear, received the degree in course.

Of the above named gentlemen, Mr. J. B. Lawford, is under age. He has, however, passed all the examinations and fulfilled all the requirements necessary for graduation, and only awaits his majority to receive his degree.

The following have passed in Medical Jurisprudence:--

Henry E. Poole,	David G. Inksetter,	B. L. Riordan.
William McEachran,	H. B. Small,	T. Ambrose.
R. K. McCorkill.	J. E. McEvenue.	

The following have passed in Anatomy :—

W. Cormack,	J. H. Carson,	F. Tupper.
G. H. Oliver,	F. H. Mewburn,	W. A. Derby,
W. J. Musgrove,	C. M. Gordon,	G. C. Wagner,
M. McNulty,	A. P. Poaps,	J. C. Shanks,

The following have passed in Materia Medica :—

W. Cormack,	H. Lunam, B. A.	W. Shufelt,
M. McNulty,	W. Moore,	J. C. Shanks,
A Dunlop,	A. McDonald,	J. Williams,
J. J. Hunt,	T. W. Reynolds,	J. B. Harvie,
	T. A. Page,	A. D. Struthers.

The following have passed in Chemistry :—

A. P. Poaps,	A. H. Dunlop,	J. B. Harvie,
W. Cormack,	W. T. Derby,	W. A. Shufelt,
A. McDonald,	T. W. Reynolds,	J. C. Shanks.
A. D. Struthers,	J. Williams,	G. C. Wagner,
J. McKay,	J. J. Hunt,	F. H. Mewburn,
C. M. Gordon,	H. Lunam, B. A.	W. Moore,
James Ross, B. A.	R. H. Klock,	T. A. Page,
B. Fritz,	J. H. Carson,	

The following have passed in Physiology :—

W. Cormack,	A. D. Struthers,	J H. Carson,
H. E. Poole,	W. A. Shufelt,	E. Fritz,
W. J. Musgrove,	C. M. Gordon,	R. H Klock,
A. McDonald,	G. C. Wagner,	A. H. Dunlop,
F. H. Mewburn,	T. W. Reynolds,	W. C. McGillis,
W. Moore,	J. J. Hunt,	

The following have passed in Practical Anatomy :—

W. A. Shufelt,	F. H. Mewburn,	W. A. Derby,
F. Tupper,	J. C. Shanks,	E Fritz,
C. M. Gordon,	J. H. Carson,	

The following have passed in Botany :—

CLASS I

H. V. Ogden, B.A. (prize).	Alex. Shaw,	T N. McLane,
J. W. Cameron, } equal,	James E. Trueman,	E. J. C. Carter,
F. A. Holmes, } 2nd pr.	Philias Vanier,	H. Gale.

CLASS II.

B. W. Burland,	Edmund Christie,	John Graham,
Henry O'Keefe,	T. J. Pierce O'Brien,	W. H. Shaver,
W. T. Duncan,	E. C. Bangs,	J. A. Lindsay,
B. F. W. Hurdman,	W. A. Dewolf Smith,	John M. Scott,
J. H. Edick,	J. H. Shaver,	J. L. Martin.

CLASS III.

W. E. Thompson,	N. J. Hinkley,	R. Price,
J. B. Green,	C. B. H. Hanvey,	R. F. Campbell,
B. D. Pierce,	C. H. Ormand,	George Shrady,
A. McR. Catenach,	W. W. Denyer,	Albert Cuthbert.

XV.

MEDALS, PRIZES AND HONOURS.

THE HOLMES GOLD MEDAL was awarded to John B. Lawford, of Montreal.

THE PRIZE FOR THE FINAL EXAMINATION was awarded to A. W. Imrie, Spencerville, Ont.

THE PRIZE FOR THE PRIMARY EXAMINATION was awarded to John Andrew McDonald, Panmure, P.E.I.

THE SUTHERLAND GOLD MEDAL was awarded to W. L. Gray, Pembroke, Ont.

The following gentlemen arranged in the order of merit, deserve honourable mention :—

In the Final Examination, Messrs. Shaw, Gray, Sutherland and Williston.

In the Primary Examination, Messrs. Josephs, W. L. Gray, J. W. Ross, Beer, Rogers, Henderson, R. B. Struthers and Heyd.

PROFESSORS' PRIZES.

BOTANY.—First Prize, H. V. Ogden, B. A., St. Catherines, O. Second Prizes, J. W. Cameron and F. A. Holmes.

PRACTICAL ANATOMY.—Demonstrator's Prize, in the Senior Class, awarded to Chas. N. Beer, of Charlottetown, P.E.I.

Junior Class prize awarded to James Ross, B. A., Dewitville, Q.

PRACTICAL CHEMISTRY.—W. L. Gray, Pembroke, Ont.

XVI.

SUMMER SESSION.

The Classes are chiefly practical and demonstrative, and are designed to supplement and extend the teaching of the regular winter Session.

The experience of the past sessions has been very encouraging, both in regard to the numbers in attendance, and the diligence with which the classes have been followed; and the Faculty hopes that all students will endeavour to take one or two of these extra Sessions, the fees for which have purposely been placed so low as to be almost nominal.

The special advantages of attendance upon a Summer Session are :—

(1) The benefit derived from the practical and demonstrative classes.

(2) Dresserships and Clinical Clerkships are more easily obtained at the Hospitals, and the student has more time at his disposal to follow up the cases.

(3) Cases of Midwifery are obtained in greater numbers at the Lying-in-Hospital.

(4) Systematic study can be carried out more effectively than at home.

As is only natural, the advantages offered by the city of Montreal for the practical study of Medicine and Surgery are unequalled in the Dominion. In the wards of the General Hospital there is always—and more particularly in the summer months when navigation is open—a large collection of interesting medical and surgical cases. In the out-door department there is a daily attendance of between 75 and 100 patients, which affords excellent instruction in minor surgery, routine medical practice, and diseases of children. The Eye and Ear Department, will afford to the student an opportunity of studying practically, under skilled direction, these important branches.

The Faculty has much pleasure in announcing the following prospectus.

Clinical Instruction at Bedside.—Montreal General Hospital ..... — **The Attending Physicians.**

A limited number of Dresserships and Clinical Clerkships may be obtained on application to the Attending and Out-Door Physicians.—DAILY, 12-2.

Medical Clinique.—Lectures upon the Diagnosis and Treatment of cases brought into the Theatre... TUESDAYS, 11 a.m..... — **Geo. Ross, M.A. M.D.** Prof. of Clinical Medicine

Surgical Clinique.—Lectures upon the Diagnosis and Treatment of cases brought into the Theatre; FRIDAYS, 11 a.m..... — **T. G. Roddick, M.D.** Prof. Clinical Surgery.

Diseases of Women.—Method of examining patient; use of speculum and uterine sound; disorders of menstruation; leucorrhœa, its causes and treatment; tumors of the uterus, displacements of uterus, &c.—MONDAYS & THURSDAYS, 11 a.m. — **D. C. McCallum, M.D.** Prof. of Midwifery and Diseases of Women.

Practical Gynecology—for senior Students at the University Dispensary for Women, — thrice weekly ..... — **Drs. MacCallum and Gardner.**

Diseases of Children.—Anatomical and Physiological peculiarities of infancy and childhood; modes of examination of sick children; peculiarities of symptoms; therapeutics and dosage; consideration of the more common and important diseases of childhood.—THURSDAYS, 10 a.m ... — **Wm. Gardner, M.D.** Prof. of Medical Jurisprudence.

Ophthalmic and Aural Surgery.—Twelve Clinical Lectures on cases in the Theatre. Extra hours for Ophthalmoscopic work, and instruction in operations ..... MONDAYS, 10 a.m., ... — **F. Buller, M.D.** Lecturer on Ophthalmology and Otology.

Operative Surgery.—Surgical Anatomy of arteries; surface markings; special anatomical demonstrations.—FRIDAYS, 10 a.m..... — **F. Shepherd, M.D.** Demonstrator of Anatomy.

Minor Surgery.—Bandaging, application of splints, hæmostatics, catheterism, &c..... WEDNESDAYS, 10 a.m..... — **R. L. MacDonnell. M.D.** Asst. Demonstrator of Anatomy.

Venereal Diseases and Diseases of skin.—Clinical Demonstrations on cases in the Theatre; weekly — **T. G. Roddick, M.D.** Prof. of Clinical Surgery.

Electro-Therapeutics.—Six Lectures and demonstrations on varieties of electricity; batteries; electro-diagnosis; modes of application; medical diseases in which electricity is useful; electrolysis and galvanic cautery.—SATURDAYS, 10 a.m... — **Wm. Gardner, M.D.** Prof. of Medical Jurisprudence.

Practical Pathology.—consisting of twenty demonstrations in the autopsy-room of the hospital. Students will make the post-mortems in rotation, and receive instruction in the method of performing them, and keeping record of their observations.—BI-WEEKLY, 1 p.m..... — **Wm. Osler, M.D.** Prof. of Physiology and Pathology.

Practical Obstetrics.—Instruction in the diagnosis of presentations and the Clinical management of cases..... **A. A. Browne, B.A., M.D.** Clinical Assistant to the Prof. of Midwifery.

All students desirous of attending the above courses, are expected to register their names with the Registrar, *within one week* after the beginning of the Session, and to pay a *fee of $10*, when a ticket will be issued admitting bearer to the lectures, which ticket must be presented. Enregistration and payment of the fee are compulsory upon all students whether attending one or more of the classes.

The fees will be devoted to the extension and improvement of the Library and Museum, to which all students can obtain access.

A printed certificate of attendance will be issued at the close of the Session.

The following courses will also be conducted during the summer, and may be taken by enregistered students.

Practical Chemistry. including blowpipe manipulation, qualitative analysis, toxicological investigations, analysis of urine, &c. This course is the same as, and may be taken in lieu of, the Sessional Course during the winter..... *Fee, $12.*—MON., WED., and FRIDAYS, 3-5 p.m. **G. P. Girdwood, M.D.** Prof. of Practical Chemistry.

Practical Histology, normal and pathological. A course of twenty lessons. Microscopes, reagents, and material provided. *Fee, $15*..... TUESDAYS, THURSDAYS, & SATURDAYS, 3-5 p.m. **Wm. Osler, M.D.** Prof. of Physiology and Pathology.

McGill University.—Faculty of Medicine.

ORDER OF LECTURES, WINTER SESSION 1879-80.

A.M.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Anatomy.	Anatomy.	Anatomy.	Anatomy.	Anatomy.	Hygiene.
	Medical Jurisprudence.	Ophthalmic Clinic.	Medical Jurisprudence.	Ophthalmic Clinic.	Medical Jurisprudence.	Botany.
10	Surgery.	Surgery.	Surgery.	Surgery.	Surgery.	
	Practical Chemistry.	Botany.	Practical Chemistry.	Botany.	Practical Chemistry.	PathologicalDemonstration
11	Midwifery.	Midwifery.	Midwifery.	Midwifery.	Midwifery.	
	Out-door Patients. Montreal General Hospital.	Out-door patients. Montreal General Hospital.	Out-door Patients. Montreal General Hospital.	Out-door Patients. Montreal General Hospital.	Out-door Patients. Montreal General Hospital.	
P.M. 12.30	Clinical Medicine, Wards.	Clinical Surgery, Wards.	Clinical Lecture, Medicine	Clinical Medicine, Wards.	Clinical Surgery, Wards.	Clinical Lecture, Surgery.
1.30			Clinical Surgery, Wards.			Clinical Medicine, Wards.
2	Materia Medica.	Materia Medica.	Materia Medica.	Materia Medica.	Materia Medica.	Histological & Physiological Demonstration, 1st year.
3	Physiology.	Physiology.	Physiology.	Physiology.	General Pathology.	Histological & Physiological Demonstration, 2nd year
4	Practice of Medicine.	Practice of Medicine.	Practice of Medicine.	Practice of Medicine.	Practice of Medicine.	
5	Chemistry.	Chemistry.	Chemistry.	Chemistry.	Chemistry.	
8-10	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	

☞ The Demonstrator's Hours in the Dissecting Room are from 10-12 a.m., 8-10 p.m.

☞ Autopsies are performed at the General Hospital between 12 & 2 p.m. Due notice is given to the students.

Faculty of Law.

THE PRINCIPAL (Ex-officio.)

Professors :—ABBOTT.
LAFLAMME.
CARTER.
TRENHOLME.
WURTELE.

Professors :—DOUTRE.
RAINVILLE.

Lecturers :—ARCHIBALD.
LAREAU.
HUTCHINSON.

Dean of the Faculty.—Hon. J. J. C. ABBOTT, Q.C., D. C. L.

Acting Dean.—Professor WM. KERR, Q.C., D C.L.

Registrar of the Faculty.—J. S. ARCHIBALD, M.A., B.C.L.

Corporation Examiners for Degrees.—Professors N. W. TRENHOLME, M. A., B.C.L., and EDMOND LAREAU, B.C.L.

Matriculation Examiners of the Faculty.—Lecturers J. S. ARCHIBALD, M. A., B.C.L., and EDMOND LAREAU, B.C.L.

The Classes in Law will commence on Wednesday the First of October, 1879, and will extend to March 31st, 1880.

The Lectures of the Faculty will close on Saturday the 6th of March, 1880, and the Examinations will be held in the William Molson Hall, McGill College Building, from 3 to 6 p. m., on the 11th, 12th, 13th, 16th, 17th, 18th and 19th days of March, 1880.

The Lecture Rooms of the Faculty are situated in the Molson's Bank Chambers, in St. James Street.

The complete course of study in this Faculty extends over three years; but it may be shortened to two years, when the student matriculates in the third year of his indentures.

Students who avail themselves of the privilege of attending two years only, will nevertheless be required to pass an examination in the subjects comprised in the three years' course.

Matriculated Students who do not take the whole course are classed as Partial Students, and are not entitled to proceed to the Degree of B. C. L.

Occasional Students will be received without matriculation, for attendance on any particular series of Lectures.

Students who have completed their course of three years,—or of two years, if they have commenced in the third year of their indentures,—and have passed a satisfactory examination, will be entitled, upon the certificate and recommendation of the Faculty, to the Degree of Bachelor of Civil Law.

COURSE OF STUDY.

FIRST YEAR.

Legal History	Lecturer LAREAU.
Civil Law :—	
Persons, Property, Ownership	Professor RAINVILLE.
Roman Law :—	
Institutes of Justinian, B. I., Gaius, C. I., Maine, Chapters I. to IV.	Professor TRENHOLME.
Civil and Commercial Law :—	
Obligations	Professor WURTELE.
Civil Procedure :— Introduction	Professor DOUTRE and Lecturer HUTCHINSON.
Criminal Law :—	Lecturer ARCHIBALD.

SECOND YEAR.

Legal Bibliography, *Civil Law :—* Rents, Transaction, Suretyship	Lecturer LAREAU.
Civil Law :— Usufruct, Real Servitudes, Gifts and Wills, Substitutions	Professor RAINVILLE.
International Law, *Civil and Commercial Law :—* Sales	Professor KERR.
Roman Law :— Institutes of Justinian, B. II. and B. III. to Title 14, Gaius, Chaps. II. and III., Maine, Chapters V. to VIII.	Professor TRENHOLME.
Commercial Law :— Partnership, Corporations, Bills of Exchange	Professor WURTELE.

Civil Procedure :—	
First Part	Professor DOUTRE and Lecturer HUTCHINSON.
Criminal Procedure and Election Law :—	Lecturer ARCHIBALD.

THIRD YEAR.

Civil Law ;—	
Privileges and Hypothecs	Lecturer LAREAU.
Prescription	
Imprisonment in Civil Cases	
Civil Law :—	
Successions	Professor RAINVILLE.
Marriage Covenants	
Dower	
International Law	Professor KERR.
Commercial Law :—	
Carriage of Persons	
Insurance	
Bottomry and Respondentia	
Roman Law :—	Professor TRENHOLME.
Institutes of Justinian, B. II. from Title 14..	
Maine, Chapters IX. and X	
Civil Law :—	
Mandate	
Loan	
Deposit	
Pledge	
Evidence	
Commercial Law :—	Professor WURTELE.
Merchant Shipping	
Affreightment	
Insolvency	
Civil Procedure	Professor DOUTRE.
Second Part	Lecturer HUTCHINSON.
Criminal Procedure and Election Law	Lecturer ARCHIBALD.

FACULTY REGULATIONS.

1. Any person desirous of becoming a Matriculated Student, shall apply to the Dean of the Faculty for examination and entry in the Register of Matriculation, and shall procure a ticket of Matriculation and tickets of admission to the Lectures for each Session of the Course. (Students are requested to call on the Registrar who will furnish them with the necessary forms.)

2. Candidates for Matriculation shall pass an examination, satisfactory to the Faculty of Law, in Latin, French, English, Mathematics and Ancient and Modern History, and the books upon which such examination shall be had, shall be from time to time fixed by the Faculty.

3. Students in Law shall be known as of the First, Second and Third Years, and shall be so graded by the Faculty. In each year, Students shall take the studies fixed for that year and those only, unless by special permission of the Faculty.

4. The Register of Matriculation shall be closed on the 1st of November in each year, and return thereof shall be immediately made by the Dean to the Registrar of the University. Candidates applying thereafter may be admitted on a special examination to be determined by the Faculty; and if admitted, their names shall be returned in a supplementary list to the Registrar.

5. Persons desirous of entering as Occasional Students shall apply to the Dean of the Faculty for admission as such Students, and shall obtain a ticket, or tickets, for the class or classes they desire to attend.

6. Students who have attended Collegiate courses of study in other Universities for a number of terms or sessions, may be admitted, on the production of certificates, to a like standing in this University, after examination by the Faculty.

7. All Students shall be subject to the following regulations for attendance and conduct :—

(1) A Class-Book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted; and the said Class-Book shall be submitted to the Faculty at a meeting to be held between the close of the lectures and the commencement of the examinations; and the Faculty shall after examination of such class-book, decide which students shall be deemed to have been sufficiently regular in their attendance to entitle them to proceed to the examination in the respective classes.

(2) Punctual attendance on all the classes proper to his year is required of each student. Professors will note the attendance immediately on the commencement of their lectures, and will omit the names of Students entering thereafter, unless satisfactory reasons are assigned. Absence or tardiness, without sufficient excuse, or inattention or disorder in the Class-room, if persisted in after admonition by the Professor, will be reported to the Dean of the Faculty, who may reprimand the student or report to the Faculty, as he may decide. While in the building, or going to or from it, students are expected to conduct themselves in the same orderly manner as in the Class-rooms. Any Professor observing improper conduct in the Class-rooms, or elsewhere in the building, will admonish the student; and, if necessary, report him to the Dean.

(3) When Students are reported to the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, disqualify from competing for prizes or honours, suspend from classes, or report to the Corporation for expulsion.

(4) Any Student injuring the furniture or building, will be required to repair the same at his own expense, and will, in addition, be subject to such penalty as the Faculty may see fit to impose.

(5) The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session shall in each case be determined by the Faculty.

(6) All cases of discipline involving the interests of more than one Faculty, or of the University generally, shall be reported to the Principal, or, in his absence, to the Vice-Principal.

8. At the end of every Session there shall be a general examination of al

the Classes, under the Superintendence of the Professors, and of such other Examiners as may be appointed by the Corporation, which examination shall be conducted by means of printed questions, answered by the students in writing, in the presence of the Examiners. The result shall be reported as early as possible to the Faculty, which shall decide the general standing of the Students accordingly.

9. Each Professor shall deliver at least two Lectures in each week. Each Lecture shall be of one hour's duration; but the Professors shall have the right from time to time to substitute an examination for any such Lectures.

10. No Student shall be considered as having kept a Session, unless he shall have attended regularly all the courses of Lectures, and shall have passed the Sessional Examinations to the satisfaction of the Faculty, in all the classes of his year.

11. The Faculty shall have the power, upon special and sufficient cause shown, to grant a dispensation to any Student from attendance on any particular Course or Courses of Lectures, but no distinction shall, in consequence, be made between the Examinations of such Students, and those of the Students regularly attending Lectures. No Student shall pass for the degree of B. C. L. unless he has prepared a Thesis either in French or English which shall have been approved by the Faculty.

12. The subject of such Thesis shall be left to the choice of the Student, but it must fall within the range of study of the Faculty, and shall not exceed twenty pages of thirty lines each. Each student shall on or before the first day of February forward such Thesis to the Registrar of the Faculty, marked with the *nom de plume* which he shall adopt, and accompanied with a sealed envelope, bearing the same *nom de plume* on it, and containing inside, his name and the subject of his Thesis, and the envelope shall be opened in presence of the Faculty after the final decision shall be given on the respective merits of the several Theses.

13. The Elizabeth Torrance Gold Medal, in the Faculty of Law, shall be awarded to the Student who being of the Graduating Class, having passed the Final Examination, and having prepared a Thesis of sufficient merit in the estimation of the Faculty to entitle him to compete, shall take the highest marks in a special Examination for the medal, which examination shall include the subject of Roman Law.

14. Every candidate before receiving the Degree of B. C. L., shall make the following declaration :—

Ego A.B. polliceor, me, pro viribus meis, studiosum fore communis hujus Universitatis boni, operamque daturum ut decus ejus ac dignitatem amplificem, et officiis omnibus ad Baccalaureatus in Jure Civili gradum pertinentibus fungar.

15. The fees eligible in this Faculty are as follows :—

Matriculation Fee	$ 5 00
Sessional Fee by Ordinary Students	20 00
Sessional Fee by Occasional or Partial Students, for each course	5 00
Graduation Fee, including Diploma and Case	10 00

Matriculation and Sessional Fees must be paid on or before Nov. 1st, and if not so paid the name of the Student shall be removed from the books, but may be re-entered by consent of the Faculty, and on payment of a fine of not less than $3. Students already on the books of the University shall not be required to pay any Matriculation Fee.

16. Every Candidate for the Degree of D.C. L. in Course, under Chap. VIII., Section 4, of the Statutes of the University, shall be required to pass within four years from his graduation as B. C. L., such examination as shall be prescribed by the regulations of the Faculty of Law ; unless he shall have graduated as a B. A. of this University, either in Course or *ad eundem*. And not less than two months before proceeding to the Degree of D. C. L., the Candidate shall deliver to the Faculty of Law twenty-five printed copies of a Thesis or Treatise upon a subject selected or approved by the Faculty; such Thesis to contain not less than twenty-five octavo pages of printed matter, and possessing such a degree of literary and scientific merit as shall in the opinion of the Faculty justify them in recommending him for that Degree. And in addition to the foregoing qualifications, the Candidate shall pay to the Secretary of the Faculty annually during term, for the retention of his name on the books of the Faculty, during the said period of twelve years, a fee of two dollars, to be added to the Library fund of the Faculty.

Except as regards the Thesis, this regulation applies only to those who have taken the degree of B. C. L. subsequently to October, 1873. The examination under the above rule is as follows :—

(1) *International Law* :—

Phillimore ; Wharton, Conflict of Laws ; Fœlix, Droit International Privé.

(2) *Roman Law* :—

Gaii Commentarii, IV.; Pauli Sententiæ ; Pomponii Fragmentum de origine juris D. 1. 2.; Novellæ Justiniani, cxviii. cxxvii.; Ortolan, Institutes de Justinien, Vol. I.; Mommsen's History of Rome.

(3) *Constitutional Law* :—

Hallam, Constitutional History of England ; May, Constitutional History of England ; Mill, Representative Government ; The British North America Act, and cases thereunder.

(4) *Philosophy of Law*;—

Ahrens, Cours de Droit Naturel ; Austin, Jurisprudence ; Markby, Elements of Law ; Maine, Ancient Law.

(5) *Droit Civil et Commercial* :—

Pothier, Obligations, Vente et Communauté; Marcadé, Obligations, Vente et Communauté ; Pardessus, Droit Commercial.

The Examination will be written and oral ; and translation from the Latin, French or English texts, as well as familiarity with the subject, will be required.

University School Examinations.

1880.

UNDER THE SUPERINTENDENCE OF McGILL UNIVERSITY, MONTREAL, AND THE UNIVERSITY OF BISHOP'S COLLEGE, LENNOXVILLE.

FOR CERTIFICATES OF THE UNIVERSITY AND THE TITLE OF ASSOCIATE IN ARTS.

These Examinations are held in Montreal and at Lennoxville, and local centres may be appointed elsewhere on application to the Principal of either University, accompanied with satisfactory guarantee for the payment of necessary expenses.

The Examinations are open to Boys or Girls, under 18 years of age, from any Canadian School, under the following regulations.

Subjects of Examination.

1. These are divided into two Classes, (I) *Preliminary*, consisting of those in which every Candidate must pass; and (II) *Optional*, consisting of those in which the Candidate may have a choice.

2. The Preliminary subjects, with their values severally, are :—

English Reading	30	*marks.*
English Dictation	40	do
English Grammar (as in Morell or Smith)	50	do
Arithmetic (all the ordinary rules)	90	do
Geography (acquaintance with the maps of each of the four Continents, and of British North America)	50	do
British History (as in Collier), and *Canadian History* (as in Jeffers)	50	do

The Candidates will also be examined in the Gospels, unless objection be made thereto by their parents or guardians, and creditable answering in the same will be mentioned in the Certificate.

Additional marks, not exceeding 20, may be allowed in the Dictation paper, for quality of handwriting.

No candidate can pass unless he shall have obtained at least *one-third* of the total number of marks in each of the above subjects, except Reading and Dictation, in which *two-thirds* will be required.

3. The Optional subjects are divided into three sections as follows :—

(1) Languages.

Latin.

Grammar. Cicero, In Catilinam, Oratt. III. & IV. Virgil, Eclog. I., IV., VI., VII., IX. Ovid, Fasti, Vss. 1—300.	150 marks.

Greek.

Grammar. Xenophon, Anabasis, Bk. II. Homer, Iliad, Bk. IV.	150 do.

French.

Grammar. Extracts from Molière, in Darey's French Reader. Translation from English into French, (Vicar of Wakefield, chaps. 1 and 2.)	100 do.

German.

Grammar. Adler's Reader, Section II..... Translation from German into English.	100 do.

(2) Mathematics, Natural Philosophy, &c.

Geometry.

Euclid, I. II. III.....	150 do.

Algebra.

Elementary rules, Involution, Evolution, Fractions, Simple Equations.	150 do.

Plane Trigonometry.

Measurement of Angles, Trigonometrical Ratios of a single angle and of two angles, Complemental and Supplemental Angles, and the Solution of Right-angled triangles.	100 do.

Natural Philosophy.

Mechanics and Hydrostatics. (As in any ordinary School Text-Book.)	100 do.

Geometrical and Freehand Drawing..... 100 do.

(3) English.

The English Language.

Philology (as in Smith's Grammar and Peile's Primer) Trench's Study of Words.	100 do.

English Literature.

English Literature, Primer by S. A. Brooke. Scott's Lady of the Lake. Milton's Paradise Lost, Books 1 and 2.	100 do.

Additional Marks, not exceeding 50, may be allowed in the literature paper for quality of Composition.

History.—(as in Primers of Greece and Rome, and Collier's Great events.).....100 marks.

Geography.—Physical, Political and Commercial.....100 do.

Instead of passing in one or more subjects of the English Section, Candidates may, if they prefer it, pass in one or more of the following subjects :—

(4) Natural Science.

Zoology, (as in Nicholson's Introductory Text-Book.).....100 do.
Botany, (as in Gray's "How Plants grow.").....100 do.
Geology, (as in Dana's Text-Book.).....100 do.
Chemistry, (as in Miller's Introduction to Inorganic Chemistry.).100 do.

General Regulations.

Every Candidate must pass in at least one, and not more than three subjects in each of the Optional Sections.

No Candidate will be considered as having passed in any of the above Optional Subjects, unless he has obtained *at least one-fourth* of the total number of Marks obtainable in that subject.

Any Candidate who passes in more than one subject of any section, and who in at least one of those subjects obtains *more than half* the total number of Marks will be entitled to a Certificate of creditable answering in that subject.

The total number of Marks gained by every Candidate, including both Preliminary and Optional Subjects, shall be added up, and the Candidates arranged in a printed list, at the close of the Examination, in the order of these totals. No Marks in any subject shall be counted unless the Candidate has gained at least the minimum number of Marks in that subject.

Candidates passing in at least two Languages of Section 1st, one of them being Latin or Greek, shall receive Senior certificates. Candidates passing in any one Language of Section 1st, may receive Junior certificates. Candidates who have fulfilled the requirements for the Junior certificate, and have also taken at least half the Marks in Arithmetic, Geometry, and Algebra; and have passed in Trigonometry and in one Natural Science subject, or in two Modern Languages, shall be entitled to Senior certificates.

Candidates taking Senior Certificates shall be termed Associates in Arts.

Every Candidate shall present a certificate of character, and also a certificate from his parents or guardian that his age on first day of the examination does not exceed eighteen years.

In the case of those who pass in Latin, Greek, English, Algebra and Geometry, the examination will be received as the Matriculation Examination in the Faculty of Arts of McGill University. In the case of those who have passed in Geometry, Algebra and English, the examination will be received for Matriculation in the Faculty of Applied Science.

Candidates who fail, or who may be prevented by illness from completing their examinations, may come up at the next examination without extra fee.

The Examinations will be held in the following order, commencing Wednesday, May 19:—

1. *Preliminary Subjects.*—(May 19.) Geography; Gospels; (20,) English, Reading; Dictation; (21,) Arithmetic; British and Canadian History.

2. *Optional Subjects.*—(May 22,) Geometry; French; (25,) Latin; Natural Science; (26,) Greek; German; (27,) English Literature; History; (28,) Algebra; Natural Philosophy; Trigonometry; (29,) English Language; Geography.

Hours of Examination, 9 a. m. and 2 p. m.

Lists of the names, ages, and Optional Subjects to be taken by the candidates together with the fee of $4, must be transmitted to the Secretary of McGill University on or before May 13th. (Blank forms and copies of the regulations will be furnished on application.)

Regulations for the Higher Examination of Women.

Women over sixteen years of age, who have already received the Senior or Junior Certificates of the University, or who present certificates of education and examination accepted as equivalent by the Examiners, may enter on the following Examinations, and on passing the same shall be entitled to Certificates as Senior Associates in Arts.

The Examinations will be held at the same time and in the same manner with those for School Certificates, and local centres may be established on similar conditions.

The Examinations are divided into Imperative and Optional, as follows :—

I. IMPERATIVE.

These subjects consist of the following groups, in each of which every candidate will be required to take at least one third of the number of marks.

(a) Latin or Greek, with History.

Latin and History.—

Livy :—Book IX., Chaps. 1 to 25, inclusiue.
Cicero :—Pro Murena.
Virgil :—Æneid, Book VI.
Latin Prose Composition. Text-book :—Dr, Smith's Principia Latina, Parts IV. and V.
History of Rome.—Text-book :—Liddell's History of Rome.

——200 marks.

Greek and History.—

Homer :—Odyssey, Book XII.
Xenophon ;—Hellenics, Book I.
Demosthenes :—Philippics, I. and II.
History of Greece.—Text-book :—Dr. Smith's History of Greece.

——200 marks.

Candidates may take either Greek or Latin.

(b) Mathematics.

Arithmetic.
Euclid, Bks. I. II. III. IV., Defs. of Bk. V., Bk. VI., omitting Props. 27, 28, 29.

Algebra, inclusive of Surds, Quadratic Equations and Progressions.

Plane Trigonometry, including the measurement of Heights and Distances, with the nature and use of Logarithms.

——200 marks.

(In the last subject, Candidates are referred to Galbraith and Haughton's Trigonometry, or similar text-books.)

(c) Logic and English.

Logic, as in Whately's Logic, Book II. and III.
Anglo-Saxon, as in Shute's Manual.
Philology, as in Earle.
Green's Short History of the English People.

——200 marks.

II. OPTIONAL.

In addition to the above, Candidates must pass in at least one, and not more than three, of the following subjects, creditable answering in which will be mentioned in their certificates :—

(a) Chemistry.

Inorganic, as in Wilson, with some knowledge of Chemical Manipulation.

(b) Botany.

As in Gray's Text-book, with some knowledge of Canadian Botany.

(c) Mathematical Physics.

Mechanics (Statics and Dynamics) ; Hydrostatics.
(Candidates are referred to Galbraith and Haughton's Mechanics and Hydrostatics, Hamblin Smith's Statics and Hydrostatics, or similar Text-books.)

(d) Experimental Physics.

Any two of the following :—Heat, Light, Electricity and Magnetism, Sound.

(Candidates will be expected to shew in the Examinations that they have made the experiments themselves or have seen them made. For range of study, Candidates are referred to Ganot's Elementary Treatise on Physics, translated by Atkinson.)

(e) Biology and Geology.

Classification of Animals and Plants, as in Dawson's Handbook and Gray's Text-book.
Geology, as in Dana's Manual.
Palæontology, as in Nicholson's Manual.
A practical knowledge of Minerals, Rocks and Fossils will be expected.

(f) Mental Philosophy.

Thomson's Outlines of the Laws of Thought.
Murray's Outline of Hamilton's Philosophy, Introduction and Part I. to the end of Chapter V.

(g) English Literature and Ancient History.

Chaucer—Prologue to Knight's Tale.

Shakspere—Macbeth and Merchant of Venice.

Ancient History of the East—Lenormant and Chevallier, Vol. I., Books 1 and 2. Philip Smith's Manual.

History of Greece or Rome (if not taken in the Imperative), as in Smith and Liddell.

(h) French Language and Literature, with Ancient History.

French Syntax, as in De Fivas or Noël et Chapsal.

Moliere, les Femmes savantes.

Racine, les Plaideurs.

Souvestre, un Philosophe sous les toits.

French Literature of the 17th and 18th centuries, as in Nisard, Précis de l'histoire de la Littérature francaise.

Translation from English into French.

With History, as under (g).

(i) German Language and Literature, with Ancient History.

General Questions on Grammar (Schmidt's German Guide, Parts 1—3.)

Account of the Life and Principal Work's of Goethe and Schiller, with a speeial study of Schiller's 'Maria Stuart.'

Adler's Progressive Reader, Nos. 5, 6, 8, 9, 12, 14 of Sec. IV.

Translation from English into German.

With History, as under (g).

(k) Greek or Latin with History.

If not taken in the Imperative part of the Examination.

In the Optional Subjects, the Examinations held under the Ladies' Educational Association of Montreal, when held by Professors or Examiners of the University, and certified in writing by them as equivalent to subjects stated above, may be accepted by the Examiners in any subject or portion of a subject.

In any of the Optional Subjects, Candidates must receive at least one third of the marks in order to pass, and at least one half to receive mention of creditable answering.

(It is understood that the Optional Subjects will be reckoned as approximately of equal value.)

Successful Candidates will be arranged in the lists in the order of the aggregate of the marks which they have obtained in the whole of the Imperative Subjects and one only of the Optional.

The Fee for the Examination is eight dollars, and must be paid before the Examination. In case of failure, the Candidate may come up at the next Examination without additional fee.

Candidates are required to state in writing to the Secretary of the University the Optional Subject or Subjects in which they propose to be examined, at least one month before the date of the Examination.

Extracts from the Regulations of the University.

REGULATIONS FOR AFFILIATED SCHOOLS.

1. Any High School, Academy or Collegiate Institute, sending up successful Candidates for the examinations for Associate in Arts, shall be recognized as an Affiliated School. But on any such School failing to send up Candidates at two successive examinations, the affiliation shall cease.

2. Any High School, Academy, or Collegiate Institute, may be admitted to affiliation by resolution of the Corporation, on application, provided that such application be accompanied with statements as to finances, teachers and course of study satisfactory to the Corporation, opportunity being also given to the Faculty of Arts and Faculty of Applied Science, to make representation thereon.

3. The course of study at such Schools, shall be such as would enable their pupils to pass the Matriculation Examination for the Second Year in Arts, or the Second Year in Applied Science, and returns of the course of study in each school shall be sent to the Corporation annually on or before the 1st January.

4. Any School so affiliated may apply to the Principal for copies of Matriculation papers in Arts or Applied Science, who shall thereupon endeavour to secure the services of a Sub-examiner, or Sub-examiners in the locality of the School, and shall send the examination papers under seal to such Sub-examiner or Sub-examiners. The answers when returned shall be handed to the Examiners of the Faculty concerned, and on their favourable report the Candidates shall be entered as Matriculated Students.

5. Any pupil of an Affiliated School presenting a certificate of having passed through the course of such school and of having also passed the Matriculation Examination of any University sanctioned by regulation of the Faculty of Arts or the Faculty of Applied Science, approved by the Corporation, may be matriculated in either Faculty without further examination.

6. Under the above regulations no Candidate shall be admitted to any standing higher than that of entrance into the Second Year of Arts or of Applied Science.

7. No expense shall be incurred in Local Examinations, beyond that of Examination papers and postage, and all Students entering from Affiliated Schools shall pay the usual matriculation fee.

8.—In event of any affiliated School sending up three successful Candidates for Matriculation in Arts, the Candidate who passes the best examination shall be entitled to an exemption from fees to the amount of $20 annually while

attending McGill College, and for every additional three Candidates an additional exemption shall be given. In case the Candidates are examined by the University Examiners, the above exemptions shall be given on their reports, otherwise on certificate of the Schools.

ACADEMIC DRESS.

1. Undergraduates shall wear a plain black stuff gown, with round sleeve looped up at the elbow.

2. Bachelor of Arts :—black gown of Prince's stuff, with full sleeve looped at elbow and terminating in a point :—hood, black, lined with fur, and edged 1½ inch deep with crimson.

3. Bachelor of Applied Science :—the same gown as Bachelors of Arts.—hood, rich mauve, lined with rabbit skin.

4. Master of Arts :—black gown, as above, with long sleeve with semi-circular cut at the bottom :—hood, black silk lined with crimson, and edged 1½ inch deep with white.

5. Master of Engineering and Master of Applied Science :—same gown as Masters of Arts :—hood, rich mauve, lined with white silk.

6. Bachelor of Civil Law :—black silk gown ornamented on sleeves and front edgings :—hood, lilac silk, lined with white silk, edged 1½ inch deep with crimson.

7. Doctor of Civil Law :—for undress, the same gown as the Bachelor of Civil Law :—hood, scarlet cloth, lined with pink silk, and edged 1½ inch deep with black velvet.

8. Doctor of Laws :—for undress, the same gown as the Master of Arts :—hood, scarlet cloth, lined with pink silk, and edged 1½ inch deep with white satin.

9. Doctor of Medicine :—same gown as the Doctor of Civil Law, but no ornament on sleeves or front :—hood, scarlet cloth, lined with pink silk and edged with purple.

10. Doctor of Divinity :—black silk gown with full bag sleeve :—hood, scarlet cloth, lined with the same.

11. Doctors of Laws, Doctors of Civil Law, and Doctors of Medicine shall be entitled to wear a scarlet robe similar to that of the University of Cambridge for full dress at Convocations.

GENERAL UNIVERSITY MEETINGS AND OTHER MEETINGS IN UNIVERSITY BUILDINGS.

1.—In the case of all General Meetings appointed by the University, the Principal, or in his absence, the Vice-Principal, shall have power to make such arrangements and to secure such assistance as he may deem necessary for the preservation of order, subject to the approval of the Governors as to any expense that may be involved.

2.—The Principal may, if necessary, call upon the Deans of the several Faculties, or in their absence any of the Professors of such Faculties, to co-operate with him in the preservation of order.

3.—In case of any disorder at such meetings, the Principal and the Deans of the Faculties shall form a court of inquiry to ascertain the offenders ; and they may either remit the dealing with such offenders to the Faculties to which they belong, or may report to the Corporation.

4.—The use of any building or room of the University shall not be granted by the Principal or Faculties to Societies not consisting wholly of members of the University, or to persons not being members of the University, or for purposes not connected with the objects of the University, except by special vote of the Corporation.

5.—In case of the use of any room or building being desired for any special meeting or for the regular meetings of any University Socieiy, the application shall be made in writing to the Principal and to the Dean of the Faculty ordinarily using or having charge of the room or building, and shall be signed by at least three members of the University, who shall be held responsible for the character and order of such meeting or meetings, and shall make such provisions as may be required by the Principal or the Faculty, in the interest of the University, for the character and order of such meeting or meetings, for the conduct of visitors admitted thereto, and for the expenses involved.

[Copies of the Regulations in full, may be obtained on application to the Secretary of the University.]

MATHEMATICAL SCIENCE SCHOLARSHIP.

If Candidates of sufficient merit present themselves in competition for the Mathematical Science Scholarship in September 1879, a prize of the value of $64 (Anne Molson prize), may be given to the second in order.

McGill Normal School.

1879-80.

Government of the School.

Under the Regulations for the establishment of Normal Schools in the Province of Quebec, the Superintendent of Education is empowered to associate with himself, for the direction of one of these Schools, the Corporation of McGill University, Montreal. In accordance with this arrangement, the Provincial Protestant Normal School is affiliated with the McGill University, and the following members of the Corporation of the University constitute the Committee of the Normal School for the Session of 1879-80.

NORMAL SCHOOL COMMITTEE.

J. W. Dawson, LL.D., F. R. S., Vice-Chancellor of the University, *Chairman.*

Hon. James Ferrier, Senator.
Peter Redpath, Esq., } Governors of McGill College,

Rev. George Cornish, LL. D.
Robert A. Ramsay, M.A., B. C. L. } Fellows of McGill University.

William Craig Baynes, B. A., *Secretary.*

OFFICERS OF INSTRUCTION.

William Henry Hicks, Esq.—*Principal and Ordinary Professor of English Language and Literature.*

James McGregor, M.A.—*Ordinary Professor of Mathematics, and Instructor in Classics.*

Sampson Paul Robins, M.A.—*Associate Professor of Natural History.* (*)

Pierre J. Darey, M.A., B. C. L.—*Associate Professor of French.*

Mr. Harrington Bird.—*Instructor in Drawing.*

* Prof. Robins will also deliver lectures on the Art of Teaching to the Elementary Class.

MR. R. J. FOWLER.—*Instructor in Music.*

MR. JOHN ANDREW.— " *in Elocution.*

J. BAKER EDWARDS, Ph. D.—*Lecturer on Chemistry and Natural Philosophy.* (†.)

FRANCIS W. HICKS, M.A.—*Assistant Professor of History and English Language and Literature.*

ANNOUNCEMENT FOR NEXT SESSION.

This institution is intended to give a thorough training to teachers, especially for the Protestant population of the Province of Quebec. This end is attained by instruction and training in the Normal School itself, and by practice in the Model Schools; and the arrangements are of such a character as to afford the greatest possible facilities to Students from all parts of the Province.

The Twenty-third Session of this School will commence on the first of September, 1879, and will terminate on the first of July, 1880.

The complete course of Study extends over three years, and the Students are graded as follows.—

1. *Elementary School Class.*—Studying for the Elementary School Diploma.
2. *Model School Class.*—Studying for the Model School Diploma.
3. *Academy Class.*—Studying for the Academy Diploma.

---

1. *Conditions of Admission and obtaining Diplomas.*

Candidates for admission into the Elementary School Class will be required to pass an examination in Reading, Writing, the Elements of Grammar, Arithmetic, and Geography; and to produce the certificate, and sign the application, referred to in Articles 1 and 2 of the Regulations. Admission into each of the higher classes requires a knowledge of the subjects of the previous one.

Associates in Arts of the University may be admitted into the Elementary and Model School Classes without examination, provided that they have passed in Geometry, Algebra and French.

† Dr. Edwards will also lecture on Agricultural Chemistry.

In the Examinations for entrance into the Academy class, the Principal may allow exemptions to Associates in Arts for such subjects as in the examinations for that certificate they may have passed in with credit.

Each Student must produce a certificate of good moral character from the clergyman or minister of religion under whose charge he has last been, and also testimony that he has attained the age of sixteen years. He will also be required to sign a pledge that he purposes to teach for three years in some Public School in the Province of Quebec.

There will be a Semi-sessional Examination at Christmas, which all Students are required to pass, in order to continue in the classes.

At the close of the first year of Study, students may apply for examination for diplomas giving the right to teach in Elementary Schools ; and after two years' study, or if found qualified at the close of the first year, they will, on examination, be entitled to diplomas as teachers of Model Schools.

Students having passed the examination for the Model School Diploma, with creditable marks in classics and mathematics, or having otherwise advanced to the requisite knowledge, may go on to the Academy Class, and, on examination, may obtain the Academy Diploma.

---

2. *Privileges of Students.*

On complying with the above conditions, all students will be recognized as *Teachers-in-training* ; and as such will be entitled to free tuition with the use of text books, and to bursaries in aid of their board, not exceeding $36.00 per annum in the case of those in the two first Classes, or $80.00 in the case of those in the Academy Class, should they be successful in obtaining the diploma at the final examination. A portion of this allowance will be advanced to such students as are not resident in Montreal, on their passing the semi-sessional examination at Christmas.

Under the regulations subjoined, and with the view of extending the benefits of the School to all parts of the country, those who reside at a distance of more than ninety miles from the city of Montreal, will also be entitled to a small allowance for travelling expenses, proportionate to the distance.

Students resident in Montreal may share in the bursary fund, on producing certificates from their ministers or clergymen that such aid is absolutely necessary to their continuing in attendance at the school.

In addition to religious instruction of a general Protestant character by the Professors, arrangements will be made for special religious instruction by ministers representing the several denominations with which the students may be connected.

No boarding-house is attached to the institution, but every care will be taken to insure the comfort and good conduct of the students, in private boarding houses approved by the Principal. Board can be obtained at from $10 to $14 per month.

The Prince of Wales Medal and Prize will be given to the Student taking the highest place in the Model School Class, provided that such Student shall attain to the standard fixed by the Regulations of the Council of Public Instruction for this Medal.

The J. C. Wilson Prize of $40 and a Book, contributed by him as a former Student of the School, will be offered for competition to the candidates for the Elementary Diploma, and will be given for the highest aggregate number of marks.

All the preceding regulations and privileges apply to female as well as to male students.

Persons holding the degree of B. A. or M. A. of any University in the Province of Quebec, may receive the Academy Diploma, on passing an examination in the art of teaching, and in such other subjects necessary to the Academy Diploma, as may not have been included in their University Examinations.

---

3. *Course of Study.*

1. ELEMENTARY SCHOOL CLASS STUDYING FOR THE ELEMENTARY SCHOOL DIPLOMA.

With the view of accommodating those who may be unable to enter at the commencement of the Session, or whose previous edu-

cation may enable them to enter at a more advanced period, the course of study in this class is divided into terms, as follows :—

FIRST TERM, from September 1st to December 26th.

(Entrance examination as stated above.)

English.—Grammar and Composition ; so far as to parse syntactically and write correctly a few short descriptive sentences, (Text-Books, Bullion's Grammar and Parker's Progressive Lessons) ; Reading and Spelling, Etymology, Penmanship, Elocution.

Geography.—So far as to have a good acquaintance with the Map of the World.

History.—Outline of Sacred and Ancient History.—History of Canada. Text-books, White and Hodgins.

Arithmetic.—Simple and Compound rules, Properties of Numbers, Scales of Notation. Text-Book, Sangster's Arithmetic.

Algebra.—The Elementary rules as in Todhunter's Algebra.

Geometry.—First Book of Euclid.

Art of Teaching.—The Physical, Mental and Moral Constitution of Children.

Physics.—The Chief Forces of Nature, Properties and States of Bodies, Solids, Liquids and Gases.

French.—Elements of Grammar, easy reading and translation. Text-Books, Student's Companion to the study of French. Darey, Lectures francaises.

Natural History.—Botany as in Gray's Text-Book.

Drawing,—Elements and simple outlines.

Music.—Vocal Music with Part Songs.

SECOND TERM. January 1st to April 1st.

(Pupils entering at the commencement of this term will be expected to pass a satisfactory examination in the subjects of the previous term.)

English.—Grammar and Composition, so far as to be able to analyse simple and complex sentences, and to write correctly a short essay on a familiar subject. —Elocution continued.

Geography.—So far as a good acquaintance with the physical features and political divisions of the great continents.

History.—England and France. Ancient History.

Arithmetic.—Vulgar Fractions. Proportion and Per-centage.

Algebra.—Simple Equations.

Geometry.—Second Book of Euclid.

Art of Teaching.—General Methods of Education.

Physics.—Motion. Vibration. Heat and Light.

French.—Grammar continued; including Reading, Translation, Oral and Written Exercises.

Natural History, Continued.

Drawing.—Landscape, etc., in Pencil.

Music.—Elements of Vocal Music, and Part Songs.

THIRD TERM. April 1st to July 1st.

(Pupils entering at the commencement of this term will be expected to pass a satisfactory examination in the subjects of the previous terms.)

English.—Advanced Lessons, Grammar and Composition, Elocution continued.

Geography and History.—Advanced Lessons, with use of Globes, and recapitulation of previous parts of the course.

Arithmetic.—As applied to Mensuration; and general recapitulation.

Book-keeping.—First principles.

Algebra.—Simple Equations of two and three unknown quantities.

Geometry.—Recapitulation and Deductions.

Art of Teaching.—School arrangements.

Elementary Chemistry.—Elements and Constituents of Soils.

French, Natural History, Drawing and Music.—Continued as in the previous term.

Religious Instruction will be given throughout the Session.

---

2. MODEL SCHOOL CLASS, STUDYING FOR THE MODEL SCHOOL DIPLOMA.

[*Students entering this Class must have passed a satisfactory examination in the subjects of the Elementary School Class. The Class will pursue its studies throughout the Session, without any definite division into terms.*]

English.—Principles of Grammar and Composition, Style. History of the English Language. Lectures on English Literature. Elocution.

Geography.—Mathematical, with Nautical Problems. Detailed course of Political and Physical Geography.

History.—Mediæval and Modern, with special reference to the History of Literature, Science and Art, and Colonization and Commerce.

Education.—Advanced course of Lectures on Educational Subjects.

Arithmetic.—Logarithmic, Algebraic and Geometric Arithmetic, Recapitulation of Commercial Arithmetic and Book-keeping.

Algebra.—Quadratic Equations. Ratios and Progression. Theorem of Undetermined Coefficients, and Binomial Theorem.

Geometry.—Third, Fourth and Sixth Books of Euclid. Application to mensuration.

Object Lessons.

Chemistry and Natural Philosophy.—Affinity, Laws of Combination, Principal groups of Salts, Electricity and Electrolysis, Mechanical Physics.

Classics.—Elements of the Latin Language, as in Bryce's 1st Latin Reader.

French.—Student's Companion. Translation from French into English, and from English into French; Darey, Lectures francaises.

Agricultural Chemistry.—Principles, and application to Canadian Agriculture.

Drawing.—Figures from the Flat and from Models. Elements of Perspective.

Music.—Instrumental Music, Part Songs, and Rudiments of Harmony.

Religious Instruction throughout the Session.

---

3. ACADEMY CLASS, STUDYING FOR THE ACADEMY DIPLOMA.

(Students entering this Class must have passed a creditable examination in the subjects preparatory to the Course of Study.)

English Literature.—An advanced course.

History and Geography.

Logic and Ethics.—As in Abercrombie's Intellectual and Moral Philosophy.

Mathematics.—Trigonometry, Solid Geometry and Mechanics:—Galbraith and Haughton.

Latin.—Sallust, Catiline; Virgil, Æneid, Book VI.; Latin Prose Composition, Roman History.

Greek.—New Testament, John's Gospel; Xenophon, Anabasis B. I; Grammar and History.

Botany.—As in Gray's Text-Book.

French.—Conversation in French. French Literature. Poitevin's French Grammar, Racine and Moliere.

Elocution.

Drawing.

Education and object Lessons. In the case of students who have not already attended the lectures in these subjects.

EXTRACTS FROM THE REGULATIONS.

Special Regulations for the admission of Teachers-in-training.

Article First.—Any person desirous of being admitted as a Teacher-in-training must apply to the Principal of the Normal School, who, on his producing an extract from the Register of Baptisms, or other evidence, showing that he is full sixteen years of age, with the certificate of character and conduct required by the the 6th article of the General Rules and Regulations, approved by his Excellency the Governor-General in Council, on the 22nd December, 1856, shall examine the candidate.

If upon his examination it is found that the candidate can read and write sufficiently well, knows the Rudiments of Grammar in his mother tongue, Arithmetic as far as the rule of three inclusively, and has some knowledge of Geography, the Principal shall grant him a certificate.

Article Second.—The candidate having thus obtained the certificate of the Principal, shall then, (in the presence of two witnesses, who, with the Principal, shall countersign the same,) sign an application in writing for admission, containing the declaration required by the 23rd general regulation. This shall be forwarded to the Superintendent of Education, together with all the certificates and other documents required, and if the whole be found correct, the Superintendent shall cause the name of the candidate to be inscribed in the Register, and notice thereof shall be given to the Principal.

Article Third.—The teachers-in-training shall state the place of their residence ; and those who cannot reside with their parents, will be permitted to live in boarding-houses, but in such only as shall be specially approved of. No boarding-houses having permission to board male teachers-in-training will be permitted to receive female teachers-in-training as boarders, and *vice versa*.

Article Fourth.—Every teacher-in-training, on passing the examination, will be allowed a sum not exceeding $36 to assist in paying his board. (*)

Article Fifth.—Every teacher-in-training residing at a distance of more than ninety miles from the City of Montreal, shall be entitled to receive an allowance for travelling expenses proportionate to the distance, but not to exceed ten dollars *per annum*.

Article Sixth.—The total amount of allowances paid to teachers-in-training under the foregoing articles shall not exceed $1,333.33 currency, yearly—that being the sum granted for that object ; and when the whole of this amount is appropriated, such teachers-in-training as may apply for admission shall not be entitled to any portion thereof until vacancies shall occur.

Special Regulations for Government and Discipline.

Article First.—Teachers-in-training guilty of drunkenness, of frequenting

* Except in the case of Teachers-in-training for the Academy Diploma, who may receive a sum not exceeding $80.

taverns, of entering disorderly houses or gambling houses, or keeping company with disorderly persons, or committing any act of immorality or insubordination, shall be expelled.

Article Second.—There shall be no intercourse between the male and female Teachers-in-training while in School, or when going to, or returning from it. Teachers of one sex are strictly prohibited from visiting those of the other.

Article Third.—They are on no account to be absent from their lodgings after half-past nine o'clock in the evening.

Article Fourth.—They will be allowed to attend such lectures and public meetings only as may be considered by the Principal conducive to their moral and mental improvement.

Article Fifth.—Proprietors of boarding-houses authorized by the Principal shall report to him any infraction of the rules with which they may have become acquainted.

Article Sixth.—The Professors shall have the power of excluding from the lectures, for a time, any student who may be inattentive to his studies, or guilty of any minor infraction of the regulations.

Article Seventh.—Teachers-in-training will be required to state with what religious denomination they are connected; and a list of the Students connected with each denomination shall be furnished to one of the Ministers of such denomination resident in Montreal, with request that he will meet weekly with that portion of the Teachers-in-training, or otherwise provide for their religious instruction. Every Thursday after four o'clock will be assigned for this purpose.

Article Eighth.—In addition to punctual attendance at weekly religious instruction, each student will be required to attend public worship at his own church, at least every Sunday.

Intending students may obtain all necessary information on application to the Principal or either of the Professors.

MODEL SCHOOLS OF McGILL NORMAL SCHOOL.

Head Teacher of Boys' School—Francis W. Hicks, M. A.
" " Girls' School—Jane A. Swallow.
" " Primary School—Lucy H. Derick.

These Schools can accommodate about 300 pupils, are supplied with the best furniture and apparatus, and conducted on the most modern methods of teaching. They receive pupils from the age of six and upwards, and give a thorough English Education. Fees; Boys' and Girls' Model Schools, 25c. to 40c. per week; Primary School, 15c.; payable weekly.

Graduates of the University.

DOCTORS OF DIVINITY.

* Bethune, Rev. John (ad eundem) 1843. * Falloon, Rev. Daniel, [Hon.]..1844

DOCTORS OF LAWS AND OF CIVIL LAW.

* Abbott, Christopher, B. C. L. [D. C. L., in course].....1862
Abbott, Hon. J. J. C., B. C. L., [D. C. L., in course].....1867
* Adamson, Rev. Wm. A., [D.C.L., hon].....1850
Badgley, Hon. Wm. [D. C. L., hon].....1843
* Bancroft, Rev. C., D.D. [LL.D. hon].....1870
Blackwood, Right Hon. Frederick Temple Hamilton, Earl of Dufferin, [LL.D., hon].....1878
Bond, Rev. Wm., M.A. [LL.D., hon]..1870
Campbell, George W., M. A., M. D., [LL.D. hon].....1875
Chamberlin, B., M. A., B. C. L., [D. C. L. in course].....1867
Chauveau, Hon. Pierre J. O., [LL.D. hon].....1857
Cordner, Rev. John, [LL.D. hon]...1870
Cornish, Rev. George, M.A., [LL.D. in course].....1872
Cushing, Lemuel, M. A., [LL.D. in course].....1879
Davidson, Charles Peers, M. A., B. C. L. [D. C. L. in course].....1875
* Davies, Rev. Benjamin, Ph. D. [LL.D. hon].....1856
Dawson, John William, M. A., [LL.D. hon].....1857
DeSola, Rev. A., [LL.D. hon].....1858
Douglas, Rev. Geo. [LL.D. hon]....1870
Doutre, Gonsalve, B.C.L. [D.C.L. in course].....1873
* Falloon, Rev. D., D.D., [LL.D. hon].....1862
Gilman, Francis E., M. A., B.C.L. [LL.D. in course].....1877
Girouard, Desiré, B.C.L., [D.C.L. in course].....1874
* Head, Right Hon. Sir Edmund W., Baronet, M. A., [LL.D. hon.]..1862
Hemming, Edward J., B. C. L. [D.C.L. in course].....1871
* Holmes, Andrew F., M. D., [LL.D. hon].....1858
Howe, Henry Aspinwall M. A., [LL.D. hon].....1870
Hunt, T. Sterry, M. A., [LL.D. hon].....1865
Jenkins, Rev. John, (D.D. Univ, N. Y.) [LL.D. hon].....1879
Kerr, William H. [D. C. L. in course].....1873
Kirby, James, M. A., B. C. L. [D. C. L. in course] [LL.D. in course].....1874
Laflamme, R. G., B.C. L. [D.C.L. in course].....1873
Lawson, G., Ph. D., [LL.D. hon]...1862
* Lafrenaye, P.R., B.C.L., [D.C.L. in course].....1873
Leach, Rev. Wm. T., M. A, [D. C. L. hon].....1849
[LL.D. hon].....1857
* Logan, Sir William E., Kt. [LL.D. hon].....1856
* Lundy, Rev. Francis, [D. C. L. hon].....1843
Lyall. Rev. W., [LL.D. hon].....1864
MacVicar, Rev. D. H., [LL.D. hon]..1870
Meredith, Edmund A., B. C. L., [LL.D. hon].....1857
Miles, Hy. H., M. A., [LL.D. hon]..1866
Morris, Alexander, M. A., B.C.L. [D. C. L. in course].....1862
Parkman, Francis, (M. A. Harvard) [LL.D. hon].....1879
Rollitt, Albert K., LL.D., London Univ. [LL.D. ad eum].....1871
* Smallwood, Charles, M. D., [LL.D. hon].....1856
* Smith, William, [LL.D. hon].....1858
* Vallieres, de St. Real, Hon. J. R. [D.C.L. hon].....1844
Wickes, Rev. W. D., [LL.D. hon]..1868
Wicksteed, Richard J., M. A., [LL.D. in course].....1879
Wilkes, Rev. Henry, M.A., D.D., [LL.D. hon].....1870

* Deceased.

Adsetts, John....1866
Alexander, Robt. A....1871
Alguire, Duncan O....1874
† Allen, Hamilton....1872
Alloway, Thomas Johnson....1869
Anderson, Alexander....1866
* Anderson, John C....1865
Archer, Thomas....1869
Ardagh, Johnson....1869
Armstrong, George E....1877
* Arnoldi, Daniel....[Hon]....1848
Atkinson, Robt....1862
Ault, Alexander....1860
Ault, Charles....1855
Ault, James F....1855
Ault, Edwin D....1868
Austin, Fred. John....1862
Aylen, John....1857
Aylen, James....1863
Backhouse, John B....1870
Bain, D.S.E., Staff Surgeon Maj...1868
Bain, Hugh U....1875
Baird, James....1870
Baker, Albert....1848
Barclay, George....1870
* Barnston, James....[ad eun]....1856
Battersby, Charles....1861
Baynes, Donald, M.A....1876
Baynes, George Aylmer....1869
Beattie, David....1862
Beaudet, Alfred....1865
Beaudry, Lewis H....1871
Beckstead, Morris....1878
† Bell, James....1877
* Bell, John, M.A....1866
Bell, Robert....1878
Bell, Robt. W....1873
Belleau, Alfred....1862
* Bergeron, Joseph....1870
Bergin, Darby....1847
Bessey, William E....1863
Bender, Prosper....1865
Benson, Joseph B....1875
Biband, Jean G....1843
Blackader, Alex. D., B.A....1871
Blacklock, John J....1851
* Blanchet, J. B....1863
Blair, Robt. C....1865
* Bligh, John W....1865
Bogart, Irvine....1859
* Bomberry, Geo. E....1875
Boulter, George Henry....1852
* Boyer, Lewis....1842
* Boylan, Andrew A....1857
Boyle, Albert D....1877
* Bowman, William Edward....1860
Bower, Silas J....1865
* Bradley, William....1869
Brathwaite, Francis H....1863
Brandon, John....1867
Breslin, William Irwin, Asst. Surgeon, 46th Regiment of Line...1847
Brigham, Josiah S....1848
Brissette, Henry R....1871
Bristol, Ames S....1850
Brodeur, Alphonse....1863
Brodie, John....1877
Brooks, Samuel T....1851
Brouse, William H....1847
Brouse, Jacob E....1861
Brossard, J. B. J....1875
Brown, Peter E....1863
Brown, J. L....1879
Brown, Harry....1873
Browne, Arthur A., B.A....1872
Bruneau, Adolphe....1853
* Bruneau, Oliver T....[Hon]....1843
Bruneau, Onesime....1851
Bryson, William G....1867
Bucke, Richard Maurice....1862
Bucke, Edward H....1852
Buckle, John M. C....1869
Buckley, William P....1870
Bull, George Joseph....1869
* Bullen, Charles F....1864
Burgess, John A....1868
Burch, Benjamin T....1865
Burland, John H....1863
Burland, Samuel C....1877
Burland, William B....1872
Burland, William H....1876
Burrows, Philip....1866
Burnham, Robert Wilkins....1860
Burns, Alfred J....1854
Burritt, Horatio C....1863
Burwash, Henry J....1879
Butler, George C....1865
Butler, Billa F....1879
* Buxton, John N....1849
Cameron, Duncan H....1877
Cameron, James C....1874
Cameron, John D....1878
Campbell, Donald Peter....1862
Campbell, Francis Wayland....1860
Campbell, G. W., M.A...[ad eun]..1843
Campbell, James....1876
* Campbell, Samuel....1866
Campbell, John....1869
Cannon, Gilbert....1877
Carman, Philip E....1879
Carman, John B....1879
Carmichael, Duncan A....1873
Carey, Augur D. L....[ad eun]....1864
Cassidy, David M....1867

Cassidy, John F.....1865
Carroll, Robert W. W.....1859
Carson, Augustus.....1843
Carson, John.....1866
Carter, Samuel A.....1859
Case, William H.....1879
Casgrain, Charles E.....1851
Cattanach, Andrew J.....1871
Chagnon, Vinceslaus G. B.....1861
* Challiner, Francis.....1849
Cherry, William.....1869
* Chesley, George Ashbold.....1862
Chevalier, Gustave.....1860
Chevalier, Napoleon E.....1873
Chipman, Clarence J. H., B.A.....1868
Chisholm, Murdoch.....1879
Chisholm, Alex.....1878
Christie, George H.....1874
Christie, John B.....1865
Christie, Thomas.....1848
Christie, John H.....1875
* Church, Charles Howard.....1862
Church, Clarence R.....1867
Church, Coller M.....1855
Church, Levi R.....1857
Church, Mills Kemble.....1864
* Church, Peter H.....1846
Clark. Octavius H. E.....1870
Clark, Wallace, B.A.....1871
Clark, Richard A.....1870
Clark, Fincastle G. B.....1876
Clemesha, John Wordsworth.....1867
Clement, Victor A.....1869
*† Cline, John D., B.A.....1874
Cluness, Daniel.....1870
Codd, Alfred.....1865
Collins, Charles W.....1869
Collison, Robert.....1878
Colquhoun, George.....1876
Comeau, John B.....1870
Cook, Guy R.....1876
Cooke, Charles H.....1866
Cook, Hermon L.....1854
Cooke, Sidney P.....1869
Cooke, William H.....1876
Copeland, William L.....1872
Corbett, Augustus M.....1854
Corbett, William H.....1854
Corlis, Josiah.....1869
Cotton, C. L.....1878
* Cowley, Thomas McJ.....1870
Cox, Frank.....1869
Coyle, Henry W.....1876
Craig, Thornton.....1876
Craik, Robert.....1854
Cram, Daniel C.....1872
* Crawford, James.....ad eun.....1854
Cream, Thomas N.....1876
Crichton, Stuart.....1865
Crothers, William.....1876
* Culver, Joseph R.....1848
* Cunynghame, W. C. Thurlow.....1858
Cutter, Frederick A.....1873
Daly, Guy D. F.....1868
Dansereau, Charles.....1842
Dansereau, Charles.....1869
Dansereau, Pierre.....1835
D'Avignon, Fred. F.....1871
* Dease, Peter Warren.....1847
DeBonald, W. S.....1862
DeBoucherville, Charles B.....1843
DeGrosbois, T. B.....1860
Demorest, B. G. G.....1852
Desaulniers, Antoine A.....1863
DeCelles, Charles D.....1841
Depuis, Joseph G. P.....1856
Dice, George.....1864
* Dick, James R.....1842
Dickson, James J.....1846
* Dickinson, George.....1867
Dickson, William W.....1863
Digby, James Winniett.....1863
Dodd, John.....1864
Donnelly, Charles H.....1860
* Dorion, Severe.....1843
* Dorland, Enoch P.....1850
Dorland, James.....1875
Dougan, William.....1867
Douglas, James.....[Hon].....1847
Dowling, John F.....1875
Drake, Joseph M.....1861
Dubuc, Charlemange.....1864
* Duckett, Stephen.....1853
Duckett, William A.....1859
Dufort, Thadee A.....1865
Duhamel, Louis.....1860
Duncan, George.....1866
Duncan, Gideon M.....1871
Duncan, George C.....1875
Duncan, James S.....1858
* Duncan, John.....1871
* Dunn, William Oscar.....1843
Dunsmore, John M.....1870
Easton, John.....1852
Eberlé, Harry A.....1876
Edwards, Eliphalet G.....1855
Edwards, Oliver C.....1873
Elkinton, Arthur G., Asst. Surgeon Scots Fusileer Guards.....1862
Ellison, Saram R.....1873
Emery, Gordon J.....1857
Emery, Allard.....1866
English, T. F.....1858
Erskine, John.....1860
Ethier, Calixte.....1867
Evans, Griffith.....1864
Ewing, William.....1874
Falkner, Alexander.....1866
Fall, Samuel R.....1875
Farewell, G. McGill.....1872
Farewell, W. G.....1868
Farley, James T.....1877

Farley, John J.....1873
Faulkner, George W.....1871
Faulkner, D. W.....1878
Fenwick, George Edgeworth.....1847
Fergusson, Alexander A.....1864
Fergusson, Alex. A.....1866
* Finlayson, John.....1834
Finnie, John T.....1869
* Fisher, John.....1848
Fitzgerald, James.....1865
Fortier, Louis A.....1878
Fortin, Pierre.....1845
Fortune, Lewis M.....1873
* Foster, Stephen Sewell.....1846
Farleigh, William S.....1869
Fraser, Alex. C.....1878
* Fraser, William.....1836
Fraser, William H.....1867
Fraser, Donald M.....1869
Fraser, Donald.....1868
Fraser, John R.....1878
Freeman, Charles M.....1871
Fuller, W.....1866
Fuller, Horace L.....1870
Fulton, James H.....1863
Garvey, Joseph.....1852
Gardner, Matthew.....1871
Gardner, H. H.....1879
Gardner, William.....1867
Gascoyne, George E., Staff Asst. Surgeon.....1861
Gaviller, Edwin A.....1873
Gauvreau, Elzear.....1855
* Gauvreau, Louis H.....1836
Gendron, Thomas.....1866
Gernon, George W.....1872
* Gibb, George D.....1846
Gibson, John B.....1855
Gibson, W. B.....1878
* Gibson, Edward B.....1864
Gilbert, Henry L.....1876
Gillis, John A. F.....1877
Gillies, John.....1867
Gilmour, Angus.....1868
* Giroux, Phillippe.....1856
Girdwood, Gilbert P.....1865
Glenn, C. W. E.....1858
Godfrey, Robert.....1844
Godfrey, Abraham D.....1865
* Goodhue, P. J.....1875
Goforth, Franklin.....1863
Gordon, Robert.....1868
Gordon, William Wallace.....1863
Graham, Charles E.....1866
Graham, Henry.....1863
Graham, Kenneth D.....1875
Grant, Donald J.....1863
Grant, James A.....1854
Grant, William.....1867
Gray, Thomas.....1879
Gray, John S.....1876

Greaves, Henry C.....1877
Greenwood, F. S.....1879
Greer, Thomas A.....1876
Grenier, L. P. A.....1863
Groves, George H.....1879
Guerin, James J. E.....1878
Guest, Thomas A.....1873
Gunn, James.....1861
Gurd, David F.....1879
Gustin, William Claud.....1863
Hagarty, Dan. M. J.....1868
* Hall, Archibald.....[ad eun].....1843
* Hall, James B.....1866
Hall, J. W.....1848
Halliday, James T.....1866
* Hamilton, Andrew W.....1859
Hamilten, Charles S.....1868
Hamilton, John R.....1871
Hamilton, Rufus F.....1861
Hamel, Joseph Alexander.....1856
Hammond, James H.....1869
Hanna, Franklin.....1879
Hanover, William.....1875
Harding, F. W.....1868
Harkin, Henry.....1867
Harkin, William.....1858
Harkness, John.....1862
Harkness, Andrew.....1869
Hart, George C.....1879
Hanington, E. B. C.....1875
Harrison, David Howard.....1864
Hart, Frederick W.....1835
Harvey, William A.....1874
Hays, James.....1866
Herbert, P. Zotique.....1872
† Henderson, Alexander A.....1870
* Henderson, Peter M.A.....1848
* Henry, Walter.....(Hon).....1853
* Henry, Walter J.....1856
Henwood, Alfred J.....1879
Hervey, Jonas J. G.....1866
Hethrington, Harry.....1872
Hickey, Charles E.....1866
Hickey, Samuel A., B.A.....1874
Hils, Joseph.....1873
Hingston, W. H.....1851
Hockridge, Thos. G.....1874
* Holden, Rufus.....1844
Holwell, John.....1868
* Holmes, Andrew F...(ad eun)....1843
Howard, James.....1867
Howard, Robert.....1872
Howard R. Palmer.....1848
Howden, Robert.....1857
Howey, W. H.....1878
Howitt, William H.....1870
Howland, Francis D.....1867
Hulbert, Edward Augustus.....1860
Hurlbert, George W.....1859
Hume, William L.....1875
Hunt, Henry.....1876

Hunt, J. H., L. R. C. S. I., Surgeon Rifle Brigade.....1869
Hunt, Lewis G.....1871
† Hurd, Edward P.....1865
Hurlburt, Richard F.....1873
Hutchinson, John A.....1878
Imrie, Andrew W.....1879
Irvine, James C.....1866
Ives, Eli.....1863
Irwin, John L.....1879
* Jackson, A. Thomas, Staff Surgeon in the Army.....1846
Jackson, Joseph A.....1879
Jackson, Wm. Fred.....1874
Jamieson, Alexander, B. A.....1877
Jamieson, Chas. J.....1879
Jamieson, Thomas A.....1875
Johnson, James Bovell.....1876
Johnson, J. C. Asst. Surg. R.A.....1867
Johnson, Thomas G.....1871
Jones, Charles R.....1874
Jones, George N.....1874
* Jones, Thomas W....(ad eun)....1854
* Jones, Jonathan C.....1865
Jones, Wm. Justus.....1856
Jones, H. J. Montgomery.....1873
Kearney, Wm. J.....1875
Keefer, William N., B.A.....1869
* Keeler, Thomas.....1859
† Kelley, Clinton Wayne.....1867
* Kelley, Wm., Surg'n. Royl. Artl.1846
† Kelly, Thomas.....1873
Kemp, William.....1864
Kennedy, Richard A.....1864
* Kerr, James.....1858
Killery, St. John, Staff Assistant Surgeon.....1862
King, Wm. M. H.....1859
King, Reginald A. D.....1868
King, Richard A.....1867
* Kirkpatrick, A.....1856
Kittson, John G.....1869
Kittson, Edmund G.....1873
Knowles, James A.....1866
Kollmyer, Alex. H.....1856
Laberge, Ed.....1856
Lane, John A.....1877
Lang, Christopher M.....1876
* Lang, Thomas D.....1869
Langlois, O. X.....1875
Langrell, Richard T.....1865
Larocque, A. B.....1847
Law, D. W. C.....1868
Law, William K.....1877
Lawrence, Henry G. H., Asst. Surgeon Grenadier Guards.....1862
Leavitt, Julius.....1866
Leclair, George.....1851
Leclair, Napoleon.....1861
Lee, James C.....1856
* Lee, John Rolph.....1848
Lefebvre, John M.....1879
Legault, Daniel.....1868
Lemoine, Charles.....1850
Lepailleur, Leonard.....1848
Leprohon, John L.....1843
Levi Reuben.....1876
Lindsay, Heriot.....1861
Lister, James.....1862
Lloyd, H. W.....1879
Locke, C. F. A.....1872
Logan, David D.....1842
Logie, William.....1833
* Long, Alexander.....1844
Longley, Edmund.....1866
Longpre, Pierre F.....1848
Loupret, Andre.....1850
Loux, William.....1875
Loverin, Nelson.....1850
Lovett, William.....1870
† Lucus, T. D'Arcy.....1869
Lundy, Edward Lewis, Staff Asst. Surgeon.....1862
Lyford, Chas. C.....1879
Lyon, Arthur.....1861
McArthur, John A.....1879
McArthur, Robert R.....1867
McBain, John.....1874
McCallum, Duncan C.....1850
McCann, J. J., B.A.....1878
McCarthy, William.....1867
McConkey, T. C.....1872
McConnell, John B.....1873
* McCord, John D.....1864
McCormick, Andrew G.....1874
McCrimmon, Donald A.....1869
McCrimmon, John.....1878
McCrimmon, Milton.....1878
* McCulloch, Michael.....(Hon)....1843
McCullough, George.....1879
McCully, Oscar J., M.A.....1879
McCurdy, John.....1866
McDermid, Wm.....1875
* MacDiarmid, John Duncan, Staff Surgeon in the Army.....1847
McDiarmid, Donald.....1867
McDiarmid, James.....1873
MacDonald, Angus.....1863
* MacDonald, Colin.....1853
MacDonald, Roderick.....1834
MacDonald, Roderick A.....1874
McDonald, Jos. D. A.....1873
McDonell, Alex. R.....1874
McDonell, Angus.....1852
McDonell, Æneas.....1849
MacDonnell, Richard L., B.A.....1876
* McDougall, Peter A.....1847
McDougall, Peter A.....1864
McEwen, Findlay.....1870
MacFarlane, William.....1869
MacFie, James.....1869
McGuigan, William J.....1879

MacIlmoyl, Henry A.....1876
MacIntosh, Robert.....1863
Mack, Francis Lewis.....1862
* Mackie, J. R.....1865
* Macklem, Samuel S.....1859
* MacNabb, Francis A. L.....1870
McRae, George.....1876
Madrill, John.....1867
Major, George W., B.A.....1871
Malcolm, John Rolph.....1861
* Malhoit, Alfred.....1846
Malloch, Edward C.....1863
Malloch, William B.....1867
Mallory, Albert E.....1872
Marceau, Louis T.....1872
Markell, Richard.....1867
* Marr, Israel P.....1849
Marr, Walker H.....1859
Marston, Alonzo W.....1871
Marston, John J.....1863
Mason, James Lindsey, M.A.....1863
Mattice, Richard J.....1875
† Matheson, John H.....1871
* Matheson, Niel.....1870
Mayrand, William.....1847
McGarry, James.....1858
McGeachy, William.....1867
McGill, William.....1848
McGillivray, Donald.....1861
McGowan, Henry W.....1867
McGrath, Thomas.....1849
McGregor, Duncan.....1861
McGuire, Bernard D.....1873
McInnes, Walter J.....1865
McIntosh, James.....1859
McIntosh, Donald J.....1870
McIntyre, Peter A.....1867
McKelcan, George Lloyd.....1860
McKay, John.....1869
McKay, Walter.....1854
McKinley, John K.....1878
McLaren, Peter.....1861
McLaren, Peter.....1869
McLaren, Peter.....1872
McLean, Alexander.....1860
McLean, Archibald.....1867
McLeod, James.....1873
McMicking, George.....1851
McMillan, Æneas J.....1874
McMillan, Louis J. A.....1860
McMillan, John.....1857
McMurray, Samuel.....1841
* McNaughton, E. P.....1834
McNee, Stewart.....1879
McNeece, James.....1866
McNeill, Ernest.....1878
McQuillen, James.....1874
McTaggert, Alexander.....1869
McVean, John M.....1865
Meane, John, M. R. C. S. L. Staff Surgeon Major.....1869
Meek, James A.....1875
Meigs, Malcom R.....1865
Menzies, John B.....1879
* Meredith, Thomas L. B.....1842
Metcalf, Henry I.....1876
Mignault, Henry Adolphe.....1869
Miller, Robert.....1870
Mills, Thos. W., M.A.....1878
Miner, Frank L.....1877
Mines, William W.....1874
Mitchell, Fred. H.....1871
Moffat, John Edward, Staff Surg...1862
Moffat, Walter.....1868
Molson, William A.....1874
Mongenais, Napoleon.....1865
Monk, Geo. H.....1875
Monro, James T.....1872
Monro, Alexander.....1876
Moore, Chas. S.....1874
Moore, Jehiel T.....1874
Moore, Joseph.....1852
Moore, Richard.....1853
Moore, Robert C.....1869
* Morin, Joseph.....(Hon).....1850
* Morrison, David R.....1869
Morrison, John, M.A.....1872
Mount, John W.....1851
Murray, Charles H., B.A.....1876
Neilson, W. J.....1878
* Nelles, John A.....1850
Nelles, Jas. M.....1875
* Nelson, Horace.....1861
* Nelson, Wolfred.....(Hon).....1848
Nelson, Wolfred D. E.....1872
Nicol, William R.....1872
Nicoll, Charles Richard, Surgeon Major, Grenadier Guards.....1862
Nesbitt, James A.....1868
Norton, Thomas.....1874
Oakley, William D.....1877
O'Brien, Thomas B. P.....1862
O'Brien, Robert S.....1873
O'Brien, David.....1873
O'Callaghan, Cornelius H.....1854
* O'Carr, Peter.....1857
* O'Conner, Daniel A.....1861
O'Dea, James Joseph.....1859
Odell, William, Surgeon 19th Regiment of the Line.....1849
O'Leary, James.....1866
O'Leary, Patrick.....1859
Oliver, James W.....1867
O'Rielly, Charles.....1867
Osler, Wm.....1872
* Padfield, Charles W.....1868
Painchaud, Edward S. L.....1848
Palmer, Lorn L.....1867
Paquin, Jean M.....1843
Paradis, Henri.....1846
Paradis, Pierre E.....1867
* Park, George A.....1877

Parker, Rufus S.....1866
Parker, Charles S.....1866
* Patterson, James M.....1855
Patterson, James.....1864
* Pattee, George.....1858
Pattee, Richard P.....1874
Patten, Montrose A.....1864
* Patton, Edward K.....1867
Pegg, Austin J.....1872
Pegg, Charles H.....1867
Perrault, Victor.....1852
Perrier, John.....1868
Perrigo, James, M.A.....1870
Perry, H. R.....1873
Phelan, Cornelius J. R.....1865
Phelan, James S.....1874
* Phelan, Joseph P.....1854
Philip, David L.....1861
* Picault, A. C. E.....1857
Pickup, John Walworth.....1860
* Pinet, Alexis.....1847
Pinet, Alex. R.....1864
Poussette, Arthur Courthope.....1860
Powell, Israel Wood.....1860
Powell, Newton W.....1852
† Powell, Robert H. W.....1876
Powers, George W.....1861
Powers, Lafontaine B.....1864
Pringle, George.....1855
Prosser, Wm. O.....1874
Proudfoot, John S.....1868
Proudfoot, Alex.....1869
Proulx, Philias.....1844
Prevost E. Gilbert.....1859
Quarry, James J.....1868
Quesnel, Jules M.....1849
Rea, John Hamilton.....(Hon).....1853
Rainville, Pierre.....1863
Rambaut, John, Surgeon Canadian Rifles.....1859
Rattray, Charles J.....1871
Rattray, James C.....1874
Raymond, Oliver.....1850
Read, Herbert H.....1861
Redner, Horace P.....1864
Reddick, Robert.....1874
Reddy, Herbert L., B.A.....1876
Reddy, John.....(ad eun).....1856
Read, Thomas D.....1871
Reid, Alex. Peter.....1858
Reid, John A.....1871
Reid, Kenneth.....1864
Reynolds, Robert T.....1836
* Reynolds, Thomas.....1842
Richard, Marcel.....1864
Richmond, Peter E.....1873
Ridley, Henry Thomas.....1852
* Riel, Etienne R. R.....1857
Riley, Oscar H.....1879
Rinfret, Ferdinand R.....1868
* Rintoul, David M.....1854
Richardson, John R.....1865
Ritchie, Arthur F., B.A.....1876
Ritchie, John L.....1874
* Roberts, Edward T.....1859
Roberts, John E., B. A.....1867
Robertson, James.....1865
Robertson, David.....1864
Robertson, David T.....1857
Robertson, Patrick.....1867
Robillard, Adolphe.....1860
Robinson, Stephen J.....1876
Robinson, Wesley.....1872
Robitaille, Louis.....1860
Robitaille, L. T.....1858
† Roddick, Thomas G.....1868
Rodger, Thomas A.....1869
Rogers, Amos.....1874
Rooney, Robert F.....1870
† Ross, George, M.A.....1866
Ross, Thomas.....1863
Ross, Henry.....1872
Ross, William G.....1871
Ross, Wm. D.....1875
Rugg, Henry C.....1865
Rumsey, William.....1859
Rutherford, Martin C.....1879
Ruttan, Allen.....1852
* Sabourin, Moise.....1849
Sampson, Jas.....(Hon).....1847
Sanderson, George W.....1850
Savage, Thomas Y.....1854
Savage, Alex. C.....1863
Sawyer, James E.....1866
Schmidt, Samuel B.....1847
Schofield, David T.....1854
Scott, John G.....1879
Scott, William E.....1844
Scott, William F.....1875
Scott, Stephen A.....1864
* Scriven, George Augustus.....1846
Seager, Francis R.....1870
Secord, Levi.....1876
Setree, Edward W.....1878
Seguin, Andre.....1848
Senkler, A. E.....1863
* Sewell, Stephen C.....(ad eun).....1843
Sewell, Colin.....(ad eun).....1869
Seymour, Maurice M.....1879
Sharpe, Wm. James.....1872
Shaver, Peter Rolph.....1854
Shaver, R. N.....1857
Shaw, William F.....1879
Shepherd, Francis J.....1873
Shoebottom, Henry.....1857
* Simard, Amable.....1852
Simpson, Thomas.....1854
Sinclair, Coll.....1874
Smallwood, John R.....1868
Smellie, Thomas S. J., M.A.....1877
Smith, Daniel D.....1868
Smith, Daniel F.....1878

* Smith, Edward W.....1859
Smith, John.....1879
Smith, Norman A.....1870
Smith, William.....1876
Smythe, T. W.....1848
Snider, Frederick S.....1876
Sparham, Terrence.....1841
Speer, Andrew M.....1874
Spencer, Richmond.....1879
* Squire, William Wood, M.A.....1864
Stafford, Fred. I.....1878
Stanton, George.....1868
Stark, George A.....1872
* Staunton, Andrew Aylmer, Surgeon Royal Artillery.....1845
Stevens, Alex. D.....1857
Stevenson, Charles N.....1876
Stevenson, James McGregor.....1856
Stevenson, John A.....1873
* Stevenson, John L.....1855
Stevenson, Robert A.....1871
Stewart, Alexander.....1872
Stewart, John Alexander.....1862
Stewart, James.....1869
Stephenson, James.....1859
Stimpson, Alfred O.....1868
Shirk, George.....1865
St. John, Leonard.....1874
Storrs, Arthur.....1876
Stowbridge, James Gordon.....1862
Stroud, Charles S.....1876
Sutherland, Fred. Dunbar.....1861
Sutherland, Walter.....1874
* Sutherland, William.....1836
* Sutherland, William.....1870
Sutherland, William R.....1879
Switzer, John E. K.....1865
Tabb, Silas E., M.A.....1869
Tait, Henry Thomas.....1860
Taylor, Wm. H.....1860
Taylor, Sullivan A.....1870
Tew, Herbert S.....1864
Temple, James A.....1865
Thayer, Linus O.....1859
Theriault, F. D.....1863
Therien, Honore.....1863
* Thomson, James.....1842
Thompson, Robert.....1852
Tracey, Andrew W.....1873
Trenholme, Edward Henry.....1862
Trudel, Eugene.....1844
Turgeon, Louis G.....1860
Tuzo, Henry A.....1853
† Tunstall, Simon J., B.A.....1875
Ussher, Henry.....1861
Vannorman, Jonathan A.....1870
Vercoe, Henry L.....1865
Vicat, John R.....1867
† Vineberg, Hiram N.....1878
Wagner, A. Dixon.....1872
* Wagner, William H.....1844
Wakeham, William.....1866
Wales Benjamin N.....1874
* Walker, Robert.....1851
Wallace, Isaac N.....1874
Walsh, Edmond C.....1866
Walton, George O.....1873
Wanless, John R.....1867
Ward, William T.....1873
Ward, Michael O'B.....1875
Warren, Frank.....1872
* Warren, Henry.....1860
Waugh, William.....1872
Weagant, Clarence A.....1879
Webb, James T.S.....1871
Webster, Arthur D.....1878
Weilbrenner, Remi Claude.....1851
Weir, Richard.....1852
* Wherry, John.....1862
Whitecomb, Josiah G.....1848
Whiteford, James W.....1873
Whiteford, Richard.....1857
Whitwell, William P. O.....1860
Whyte, Joseph A.....1870
Wigle, Hiram.....1875
* Widmer, Christopher...(Hon).....1847
Wilcox, Marshall B.....1868
Williston, Hedley V., M.A.....1879
Wilson, Benjamin S.....1856
Wilson, Robert M.....1850
Wilson, William.....1857
* Wilscam, John Wilbrod.....1846
Wolverton, Algeron, B.A.....1867
Woods, David, Staff Surgeon.....1860
Wood, George C.....1846
Wood, George.....1863
Wood, Hannibal W.....1865
Woods, Jno. J. E.....1875
Woodful, Sam. Pratt., Asst. Surgeon Royal Artillery.....1864
Woolway, C. J.....1876
Workman, Benjamin.....1853
Workman, Joseph.....1835
Worthington, Edward...(ad eun)...1868
Wright, John W., B.A.....1878
Wright, Henry P.....1872
Wright, Stephen.....1859
Wright, William.....1848
Wye, John A.....1868
Young, Phillip R.....1876
Young, Robert C.....1873
Youker, William.....1870

* Deceased

† Holmes Medallist.

MASTERS OF ARTS.

Allworth, Rev. John B. A.... 1875
Archibald, John S.,B. A.....1877
* Bancroft, Rev. Charles (ad eun)1855
Bancroft, Rev. C., Junior, B. A.....1870
Baynes, Donald, B. A 1867
Bethune, Meredith Blenkarne,B.A.1866
* Bothwell, John A., B. A.....1868
Bowman, Wm. M..... ..(Hon).....1859
Boyd, John, B. A.....1864
Butler, Rev. John .....(Hon).....1852
Cameron, James, B. A..... 1874
Carmichael, Rev. J., B. A.....1871
Chamberlin, Browne, B. C. L. (ad eun)..... 1857
[illegible]dler, George H., B. A.... 1879
Chapman,Rev. Charles, M. A.,London Univ., (ad eun).....1872
Clarke, Wallace, B. A., M. D.....1872
Clowe, John D., B. A.....1874
Cornish, Rev. George, B. A.....1860
Crothers, Rev. William J., B. A.....1875
Cushing, Lemuel, B. A., B. C. L.....1867
Dart, William J., B. A.....1874
Davidson, Rev. James, B. A.....1866
Davidson, Charles P., B. A., B.C.L.1867
Davidson, Leonidas H., B. A.....1867
Dawson, William B., B. A.....1879
Dey, William J., B. A.....1875
DeWitt, Caleb S., B. A.....1864
Dougall, John R.,B. A.....1867
Duff, Archibald, B. A.....1867
Duncan, Alexander, B. A.....1875
Ells, Robert, B. A.....1875
Empson, Rev. John, B. A.....1879
* Gibb, George D., M. D...(Hon)...1856
Gibson, Thomas A.....(Hon).....1856
Gilman, Francis E., B. A.....1865
Gould, Edwin, B. A.....1860
Graham, John H.....(Hon).....1859
Green, Joseph, B. A.....1864
Hall, Rev. Wm., B. A.....1867
Hart, Lewis A., B. A.....1869
Hicks, Francis W., B. A.....1870
Hindley, John, B. A.....1873
Howe, Henry Aspinwall...(Hon)...1855
Jones, Montgomery, B. A.....1873
Kahler, Frederick A., B. A.....1872
Kemp, Rev. Alexander F...(Hon)...1863
Kennedy, George T., B. A.....1872
Kennedy, Rev. John, B. A.....1860
Kirby, James, B. A., B. C. L.....1862
Krans, Rev. Edward H., B. A.....1875
Laing, Rev. Robert, B.A.....1877
* Leach, Robert A., B.A.,B.C.L.....1860
McCord, David R., B. A., B. C. L....1867
McGregor, Duncan, B.A.....1874
McGregor, James, B. A..... 1868
* McIntosh, John, B. A 1873
McLaren, John R., B. A.....1868
McLennan, Duncan H., B. A.....1875
Markgraf, Charles, F. A...(Hon)...1865
Mason, James L., B.A.....1863
Mattice, Corydon J., B. A..... 1862
Morris, Alex., B. A., B. C. L.....1852
Morrison, Rev. James D., B.A.....1868
Morrison, John, B. A.....1870
Munroe, Gustavus, B. A.....1874
* Perkins, John A., B.A.....1862
Perrigo, James, B. A.....1869
* Plimsoll, Reignald J., B. A.....1867
Ramsay, Robt. A., B. A., B. C. L...1867
Robins, Sampson Paul, B. A.....1866
* Rodger, David.... ..(Hon).....1856
Ross, George, B. A., M. D.....1866
* Stewart,Rev. Colin Campbell,B.A.1870
Tabb, Silas Everett, B. A.....1865
Thorburn, John.....(Hon).....1864
Trenholme,Norman W.,B.A.,B.C.L.1867
Torrance, Edward F., B.A 1878
Wallace, Rev. R. W., B. A.. 1876
Wicksteed, Richd. J., B.A.,B.C.L...1860
* Wilkie, Daniel.....(Hon).....1869
Wilson, John, B. A.....1871
Wotherspoon, Ivan Tolkien, B.A...1862

* Deceased.

MASTER OF ENGINEERING.

McLeod, Clement H., Ba. App. Sci.....1878

BACHELORS OF CIVIL LAW.

* Abbott, Christopher C..... 1850
Abbott, Harry.....1878
Abbott, John J. C.....1854
Abbott, John B.....1874
Adam, Joseph.....1878
Adams, Abel.....1867
Allan, Irvine.....1862
‡ Archibald. John Sprott, M.A.....1870
Archambault, Henri.....1874
Archambault, Joseph L. C..... 1871
Armstrong, Louis.....1861
Ascher, Isidore G.....1863
Aylen, John, M. D.....1861
Aylen, Peter, B. A.....1854
* Badgley, Frank H..... 1852
Bagg, Robert Stanley.....1871
Bampton, Geo. E.....1879
Barnston, John G.....1856

Barry, Denis.....1872
Baynes, Edward Alfred.....1867
Baynes, O'Hara.....1874
Beaudin, Simeon.....1878
Beauchamp, Jos.....1878
Bergeron, Horace.....1877
Benjamin, Lewis N.....1865
Beaulieu, Napoleon H.....1877
Berthelot, Louis.....1878
‡ Bethune, Meredith B., M. A.....1869
Bissaillon, Francois Joseph.....1876
Bissonette, Louis A.....1878
Branchaud, Athanase.....1862
* ‡ Bothwell, John A., B. A.....1866
Bouthillier, Charles F.....1867
Boyd, John, B. A.....1864
Bowie, Duncan E.....1873
Brooke, C. J.....1878
Bullock, Wm. E., B. A.....1863
Busteed, E. B.....1879
Butler, Thomas L.....1865
Calder, John.....1878
Capsey, George.....1877
Carden, Henry.....1860
Caron, Adolphe P.....1865
Carter, Christopher B.....1866
Carter, Edward.....1864
Carter, George F.....1879
Chamberlain, Brown.....1850
Chamberlain, John, Junr.....1867
Chambers, A. Busteed.....1875
Charland, Alfred.....1863
Charrette, Pierre P.....1877
Chauveau, Alexandre.....1867
Chauret, Amedee.....1873
Choquette, Francois X.....1874
Chequet, Ambroise.....1865
Cornell, Z. E.....1879
Coouillard, Edouard.....1875
Coutlee, Lewis W. P.....1873
Conroy, Robert Hughes.....1869
Cowan, Robert C.....1862
* Crimmen, O. J.....1878
Cross, A. B.....1878
Crothers, Robert A.,B.A.....1878
Cruickshank, William G.....1872
Curran, Joseph C.....1862
Cushing, Charles.....1869
Cushing, Lemuel, Junr., M. A.....1865
Daly, J. G.....1858
Dansereau, Arthur.....1865
Dansereau, Clement.....1877
Darby, Daniel.....1870
Darey, Pierre J., M. A.....1868
David, Alphonse.....1872
Davidson, Charles P., M. A.....1863
Davidson, Leonidas Heber, M.A.....1863
Day, Edmund T.....1864
Decary, Alderic.....1879
Desaulniers, Henri Lesieur.....1864
Desaulniers, Dionis.....1870
Desmarais, Odilon.....1870
Des Rivieres, Rodolphe.....1875
Des Rosieres, Joseph.....1873
Desrochers, Jean L. B.....1863
Doak, George O.....1868
Doherty, Thomas J.....1861
‡ Doherty, Charles J.....1876
Dorion, Adelard A.....1862
Dorion, Louis C. W.....1876
Doutre, Pierre.....1858
Doutre, Gonzalve.....1861
Driscoll, Netterville H.....1861
* Drummond, William D.....1867
Dubuc, Joseph.....1869
Duchesnay, Henri J. T.....1866
Duffy, Henry T., B. A.....1878
Duncan, Alexander E., B. A.....1879
Dunlop, John.....1860
Duprat, Pierre N.....1866
Durand, Naphtalie.....1864
Ethier, Marc.....1877
Ethier, Leandre.....1879
Faribault, Joseph E.....1878
Farmer, Wm. O.....1866
Fay, John E.....1878
Fisher, Roswell C.....1869
Fisk, John J.....1868
Fleet, Charles J., B .A.....1879
Foran, Thomas P.....1870
Forget, Adelard.....1877
Franks, Albert W.....1871
* Gardiner, William F.....1856
Galarneau, Joseph Antoine.....1864
Galbraith, William.....1875
Garon, Alphonse P.....1877
Gaudet, Oscar.....1878
Gauthier, Zephirin.....1859
Gelinas, A.....1876
Glass, James M.....1876
Geoffrion, Christopher A.....1866
Gibb, James R.....1860
Gilman, Francis E., M. A.....1865
Girouard, Désiré.....1860
‡ Gordon, Asa.....1867
Gosselin, Jean.....1877
‡ Goodhue, Henry S. W.....1877
Grahame, Dugald.....1878
‡ Greenshields, James N.....1876
Grenier, Amedé L. W.....1863
Hackett, Michael F.....1874
Hall, John S., B. A.....1875
Hall, William A.....1863
Harnet, Wm. de Courcy.....1870
Hart, Lewis A., M. A.....1869
Hemming, Edward J.....1855
‡ Hodge, David W. R., B. A.....1874
Holton, Edward.....1865
Houghton, John G. K.....1863
Howard, Rice M.....1869
Howliston, Alexander.....1865
Huntington, Russ Wood.....1875

‡ Hutchinson, Matthew.....1873
Jenkins, George E.....1874
Jodoin, Isaie.....1858
Johnston, Edwin R.....1866
Jones, Richard A. A.....1854
Joseph, Joseph O.....1864
Kavanagh, H. J.....1878
Keller, Francis J.....1869
* Kelly, John P.....1862
Kemp, Edson, B. A.....1860
Kenny, Wm. R.....1865
Kirby, James, M. A.....1862
Kittson, George R. W.....1867
Knapp, Frederick A.....1877
Labadie, M. T. Adolphe.....1874
Labadie, Y. Odillon.....1874
Lacoste, Arthur.....1869
Laflamme, R. G.....1856
Laflamme, Leopold.....1869
* Lafrenaye, P. R.....1856
Lambe, William B.....1850
Lanctot, Husmer.....1878
Lanctot, Mederic.....1860
Lariviere, Joseph.....1874
Lasalle, Lucien.....1877
Larose, Telesphore.....1860
Laurier, Wilfred.....1864
Laviolette, Pierre B.....1878
Lay, Warren Amos.....1867
Lawlor, Richard S.....1865
Leach, David S.....1861
* Leach, Robert A., M. A.....1860
Le Bœuf, Louis C.....1873
Leblanc, Albert.....1879
Ledieu, Leon.....1879
Lefebvre. Frederick.....1863
Lebourveau, Steadman A.....1870
Leet, Seth P.....1879
Lonergan, James.....1873
Lonergan, Michael L. S.....1871
Loranger, Louis George.....1869
Levy, J. C. A.....1878
Lyman, Elisha Stiles.....1865
Lyman, Frederick S., B. A.....1869
‡ Lynch, Wm. W.....1868
MacKenzie, Frederick.....1861
‡ Major, David.....1875
Major, Edward James.....1871
‡ Marler, Wm. DeM., B. A.....1872
Martineau, Paul G.....1879
McCord, David Ross, M. A.....1867
McDougall, John W. C.....1877
McCormick, Duncan.....1872
McDonald, Frank H.....1873
McDonald, John S.....1876
McCorkill, John C. J. S.....1877
* McGee, Thos. d'Arcy.....1861
McGibbon, R. D., B. A.....1879
McGoun, Archibald, B. A.....1878
McIntosh, John, B. A.....1868
McKinnon, Edmund.....1878
McLaren, John J.....1868
McLaren, John Robert, M.A.....1860
McLaurin, John Rice.....1867
McLean, B. C.....1879
‡ McMaster, Donald.....1871
McNaughton, Peter J.....1879
Merry, John Wesley.....1870
Messier, Damase.....1875
Messier, Joseph S.....1868
‡ Migneault, Pierre B.....1878
Mitchell, Albert Edward.....1867
Molson, Alexander.....1851
Monk, Ed. Cornwallis.....1870
Monk, Frederick.....1877
Morrin, Pierre A.....1878
Morris, Alexander, M. A.....1850
Morris, John L.....1860
Morrin, Adelard.....1878
* Nagle, Sarsfield B.....1862
‡ Nicolls, Armine D., B. A.....1879
Nichols, Thomas, M.D., LL.B.....1875
Nutting, Charles A.....1872
Ouimet, Adolphe P.....1861
Palliser Joseph.....1877
Panet, Edouard A.....1874
Papineau, Joseph G.....1869
Parisault, Chs. Ambroise.....1859
Pelletier, Louis C.....1877
Perras, F. X.....1878
Piché, Aristide.....1868
Perry, Joseph.....1869
* Perkins, John A., M.A.....1860
Perodeault, Narcisse.....1876
Pillet, J. Henri.....1879
* Plimsoll, Reginald J., M. A.....1861
Poutre, Felix E.....1874
Power, Alexander W. A.....1868
Prefontaine, Raymond.....1873
Purcell, John D.....1877
Rainville, Henri Bejamin.....1873
Ramsay, Robert A., M.A.....1866
Richard, Damase F. S.....1859
Richard, Emery Edward.....1867
Richard, Edward E.....1868
Ritchie, William F., B. A.....1879
Rixford, Emmet Hawkins.....1865
Robillard, Emilie.....1874
Robidoux, Emery.....1866
Rochon, Charles A.....1861
Rose, William.....1866
Ross, Walter Lord.....1879
Sabourin, Ernest.....1863
Santoire, Camille.....1873
Sarrassin, Ferdinand Leon.....1871
Scallon, William.....1876
Sexton, James Ponsonby.....1860
Short, Robert.....1867
Sicotte, Victor B.....1862
Snowdon, H. L.....1856
Spong, John R.....1874
St. Jean, Edmund R.....1879

Stephens, Charles Henry.....1875
Stephens, George W.....1868
Stephens, Romeo H.....1850
Stephens, Chas. O.....1864
Tache, Paschal.....1876
Tait, Melbourne.....1862
Taschereau, Arthur.....1864
Taylor, A. Dunbar, B. A.....1878
Taylor, Reid.....1869
Terrill, Joseph Lee.....1865
Torrance, Fred W., M.A.....1865
Trenholme, Edward H., M.D.....1865
‡ Trenholme, Norman W., M. A.....1865
Trudel, Bouthillier J.....1879
Vandall, Phillipe.....1865
Vilbon, Chas. A.....1863
Walker, William S.....1874
Walsh, Thomas Joseph.....1863
Watts, William J., B. A.....1869
* Welsh, Alfred.....1864
Wicksteed, Richard G., M.A.....1864
Wight, James H.....1868
Wood, Franc Ogilvie.....1870
Wotherspoon, Ivan T. (Laval) [ad eun].....1869
Wright, William Mackay, B. A.....1863
Wurtele, Charles J. C.....1863
Wurtele, Jonathan S. C.....1870

* Deceased.

‡ Elizabeth Torrance Medallist.

BACHELORS OF ARTS.

Allan, James G. († E).....1873
Allan, John (N).....1874
Allworth, John.....1872
Amaron, Calvin E. (P 2).....1877
Anderson, Jacob de Witt, (†C).....1866
Anderson, James A.....1877
Archibald, John Sprott, (†P).....1867
Atwater, Albert W.....1877
Aylen, Peter.....1850
Bancroft, Rev. Chas., Junior.....1866
Barnston, Alexander, (†).....1857
Baynes, Donald.....1864
Beckett, William Henry.....1866
Bethune, Meredith Blenkarne (†N).....1866
Black, James R.....1874
Blackader, Alex. D., (N).....1870
Blakely, Malcolm D.....1878
Bland, Salem G., (Morrin).....1877
Bockus, Charles E.....1852
* Bothwell, John A., (†N).....1864
Boyd, John, (N 2).....1861
Brewster, William, (†C).....1865
Brooks, Charles H., (†N).....1868
Browne, Arthur Adderley, (†E).....1866
Browne, Thomas.....1853
Bullock, William E., (†C).....1860
Cameron, James, (†M).....1871
Carmichael, James.....1867
Cassels, Hamilton, (Morrin).....1873
Cassels, Robert, (Morrin) (P).....1866
Chandler. George H., (†M).....1875
Chipman, Clarence.....1866
Chubb, Sidney C., (N 2).....1877
Christie, John H.....1872
Clark, Wallace, (†E).....1869
* Cline, John D., (†C).....1871
Clowe, John D.....1863
Cook, Archibald H., (Morrin).....1869
Cornish, Rev. Geo., B. A., *London Univ.* (ad eun).....1856
Cox, Jacob W.....1876
Craig, James.....1874
Cross, Alexander S., (†P).....1879
Crothers, W. J., (P2).....1872
Crothers, Robt. A., (†C).....1876
Coussirat, Rev. Adrian D., (ad eun) 1871
Cushing, Lemuel, (C).....1863
Dart, William J.....1868
Davidson, Charles Peers.....1863
Davidson, Rev. Jas. (ad eun).....1863
Davidson, Leonidas Heber.....1863
Dawson, William B., (†N).....1874
Dawson, Rankine, (P 2).....1878
Dewey, Finlay McN., (P 2).....1874
Dey, William J., (†N).....1871
DeWitt, Caleb S.....1861
Donald, James T., (†N).....1878
Dougall, Duncan.....1860
Dougall, John Redpath.....1860
Drummond, Chas. G. B., (N).....1862
Duff, Archibald, (†M).....1864
Duffy, Henry T., (E 2).....1876
Duncan, Alexander.....1867
Eadie, Robert, (†C).....1879
Ells, Robert, (†N).....1872
Empson, John.....1874
Ewing, William.....1878
Fairbairn, Thomas, (P2).....1863
Ferguson, John S.....1861
* Ferrier, Robert W.....1857
Fessenden, Elisha Joseph.....1863
Fleet, Charles J., (E).....1873
Forneret, George A.....1877
Fortin, Rev. Octave (ad eun).....1867
Fowler, William, (N).....1865
Fowler, Elbert.....1868
Fraser, John (Morrin).....1869
Gibb, Charles.....1865
Gilman, Francis Edward.....1862
Gore, Frederick.....1861
Gould, Charles H., (†C).....1877

Gould Edwin.....1856
Graham, John, (†E).....1876
Graham, John H.....1878
Grandy, John.....1866
Gray, William.....1876
Greenshields, Edward, (†P).....1869
Greenshields, Samuel.....1874
Green, Joseph, (†C).....1861
Green, Lonsdale.....1864
Guerin, Edmund W. P., (†E).....1878
Hall, John S.....1874
Hall, William.....1861
Hart, Lewis A.....1866
Harrington, Bernard J., (†N).....1869
Harvey, Alfred.....1874
Harvey, Charles J.....1874
Hicks, Francis W.....1864
Hindley, John.....1868
Hodge, D. W. R., (†E).....1872
Holiday, Caleb S.....1870
Howard, Robt. J. B., (†N).....1879
Jones, Montgomery, (E).....1869
Johnston, James A., (†P).....1870
Joseph, Montefiore, (N).....1870
Kahler, Frederick A., (†C).....1869
Kelley, Frederick W., (†E).....1871
Kemp, Edson.....1859
Kennedy, George T., (N).....1868
* Kershaw, Philip G.....1867
Kirby, James, (†).....1859
Krans, Edward H., (†E).....1865
Lafleur, Eugene, (†P).....1877
Laing, Robert, (†P).....1868
Lane, Campbell.....1879
* Leach, Robert A.....1857
Lewis, Albert R., (E).....1869
Lighthall, William D., (†E).....1879
Lyman, Clarence A.....1878
Lyman, Henry H., (†N).....1876
Lyman, Frederick Stiles.....1863
Major, George W.....1870
Marler, Wm., De M. (†M).....1868
Mason, James L.....1859
Matheson, John.....1876
Mattice, Corydon J.....1859
Maxwell, John, (N).....1872
McClure, William, (†M).....1879
McConnell, Richard G., (N).....1879
McCord, David Ross.....1863
MacDonnell, Richard L., (†C).....1873
MacDuff, Alexander Ramsay.....1866
McFadyen, Allan L.....1878
McFee, Kutusoff N., (†P).....1874
McGibbon, Robert D.....1877
McGoun, Archibald, (†P).....1876
McGregor, Archibald F.....1877
McGregor, James (C).....1864
McGregor, Duncan.....1871
McIntosh, John, (†E).....1870
McKenzie, John (Morrin).....1867
McKenzie, Robert, (P).....1869
McKibbin, William M.....1875
McKibbin, Robert.....1879
McKillop, Ronald.....1878
McLaren, David C.....1878
McLaren, John R.....1856
McLaren, Harry, (†).....1858
McLean, Neil W., (Morrin) (P 2).1866
McLean, Bredalbane S.....1869
McLennan, Duncan H.....1871
McLennan, John S., (P).....1874
McLeod, Duncan C., (†M).....1873
McLeod, Hugh.....1866
McLeod, Finlay J.....1872
* McOuat, Walter, (N).....1865
Merritt, David Prescott.....1863
Moore, Francis X.....1868
Morris, William.....1859
Morris, Alexander.....1849
Morrison, John.....1866
Morrison, James D., (†N).....1865
Morrison, David W., (E).....1870
Muir, John N.....1864
* Muir, Rev. E. P., (ad eun).....1865
Munro, Gustavus.....1871
Munro, Murdoch.....1872
Murray, Charles H., (†N).....1873
Naylor, W. H., (†P).....1872
Newnham, Jarvois A.....1878
Oliver, Theophilus H. (Mor.)(P 2)1866
Pease, George H., (†C).....1864
Pedley, Hugh.....1876
Pedley, Charles S., (P).....1878
Perrigo, James, (N).....1866
* Perkins, John A.....1858
Petit, Rev. Charles B.....1850
Phillips, Charles W.....1852
* Plimsoll, Reignald J.....1858
Ramsay, R. Anstruther, (†N).....1862
* Redpath, George D.....1857
Redpath, William W.....1879
Reddy, Herbert L., (E).....1873
Rexford, Elson J., (P).....1876
Ritchie, Arthur F., (C).....1873
Ritchie, William F., (†C).....1875
Robertson, Alex., (†N).....1870
Robertson, Robert (P).....1877
Robins, Sampson Paul, (†M).....1863
Ross, George, (†C).....1862
Ross, James, (†P).....1878
Russell, Henry (Morrin).....1869
Scott, Henry C. (Morrin) (P).....1866
Scott, Matthew H., (†N).....1877
Sherrill, Alvan F., (†N).....1864
Slack, George.....1868
Stethem, George T.....1852
Stevens, William H.....1879
Stevenson, Samuel C.....1874
Stevenson, Rev. J. F., B.A., *London Univ.* (ad eun).....1876
* Stewart, Colin Campbell, (†N)..1867
Stewart, William S., (†C).....1878

Stuart, Gustavus G., (†P).....1875
Sweeny, James F.....1878
Tabb, Silas Everett, (N).....1866
Taylor, Archibald D., (C).....1874
Taylor, Edward T.....1878
Taylor, Ernest M.....1875
Thomas, Henry W., (†E).....1874
Thornton, Rev. R., M.A., (ad eun)..1871
Thornton, Hastwell W., (N).....1878
Torrance, Edward F., (P 2).....1871
Torrance, Frederick W.....1878
Torrance, John Fraser.....1872
Trenholme, Norman Wm., (†P).....1863
Tunstall, Simon, J., (E).....1873
Tupper, James S., (N).....1871
Walker, Thomas.....1860
Wallace, Robt. W., (P).....1872
Ward, George B., (†C).....1874
Warriner, William H., (†E).....1877
Watson, Alindus J.....1876
Watts, Wm. John, (C).....1866
Wellwood, James.....1878
Whillans, Robert.....1872
Wicksteed, Richard J., (C).....1863
Wilson, John, (E).....1866
Wood, Franc O.....1869
Wood, Thomas F.....1869
Wood, Holton H.....1879
Wotherspoon, Ivan T., (Morrin) (P)1866
Wright, William McKay.....1861

BACHELORS OF APPLIED SCIENCE.

In Civil and Mechanical Engineering.

Boswell, St. George J.....1874
Boulden, Charles M.....1878
Brodie, Robert J.....1873
Batcheller, Alvan A.....1875
Chipman, Willis.....1876
Dawson, William B., B.A.....1875
* Frothingham, John J.....1875
Harvey, Charles J., B. A.....1874
Hawley, David F.....1876
Hethrington, Frederick.....1876
Hall, Richard.....1878
Hill, Arthur E.....1875
Jones, Thomas, H.....1877
Kennedy, George T., M. A.....1873
McLean, Alexander J.....1874
McLeod, Clement H.....1873
Page, John.....1875
Robertson, George S.....1874
Rogers, Richard B.....1877
Ross, George.....1875
Ross, Philip D.....1878
Sproule, William J.....1877
Stewart, Donald A.....1873
Swan, John.....1878
Thompson, William T., (N).....1877
Walbank, William McL.....1877
Wardrop, Norval.....1877
Wicksteed, Henry K.....1873
Wilson, Robert A.....1875

In Mining and Assaying.

Rogers, Richard B.....1878
Spencer, Joseph Wm. (N).....1874
Torrance, John Fraser, B. A., (N)..1873
Wicksteed, Henry K.....1874
Wilkins, Dan. F. H., B.A. (Tor) (N)1875

In Practical Chemistry.

Adams, Frank, (N).....1878

GRADUATES IN CIVIL ENGINEERING.

Barnston, Alexander B. A.....1859
Bell, Robert, (N).....1861
Crawford, Robert.....1859
Doupe, Joseph.....1861
Edwards, George.....1863
Frost, George H.....1860
Gaviller, Maurice.....1863
* Gooding, Oliver.....1858
Gould, James H.....1862
Kirby, Charles H.....1860
McLennan, Christopher.....1859
Reid, John Lestock.....1863
Rixford, Gulian Pickering.....1864
Ross, Arthur.....1860
* Savage, Joseph.....1860
Walker, Thomas, B. A.....1860

[C] First Rank Honours in Classics: [C2] Second Rank do.
[E] " " " in English Literature, &c. [E2] " "
[M] " " " in Mathematics and Physics. [M2] " "
[N] " " " in Natural Science. [N2] " "
[P] " " " in Mental and Moral Philosophy. [P2] " "

† indicates the *Gold Medallist* for the subject denoted by the letter to which it is prefixed; or, if standing alone, for best general standing. For the titles of the Gold Medals assigned to the several subjects since 1864, see § VI. of Faculty of Arts.

In 1857, 1858, 1859, the *Chapman* Medal was awarded for the best general standing; 1860, 1861, 1862, for Classics; 1863 for Mental and Moral Philosophy; 1864 for Natural Science.

In 1862 the *Prince of Wales* Medal was awarded for Natural Science; 1863 for Mathematics and Physics; 1864 for Classics.

Students of the University.

SESSION 1878-79.

McGILL COLLEGE.

FACULTY OF LAW.

First Year.

Aylmer, Hon. Henry,	Melbourne, Q
Bergerin, Joseph,	Valleyfield, Q
Bothwell, Joseph S.,	Durham, Q
Church, Fred. Wm.,	Aylmer, Q
Chagnon, Joseph E.,	Montreal, Q
Cresse, Louis G. A.,	Three Rivers, Q
Cholette, Arthur H.,	Rigaud, Q
Cross, Alexander,	Ormstown, Q
De Martigney, A. L.,	Montreal, Q
Downie, Donald,	Henchinbrooke, Q
Dickson, W. Edward,	Trenholmeville, Q
Forster, Rev. Joseph L.,	Newcastle-on-Tyne, E
Foster, George G.,	Knowlton, Q
Fagneaut, Henri P.,	Montreal, Q
Gauthier, Antoine A.,	Sault-au-Recollet, Q
Glass, Wm. G.,	Montreal, Q
Ingalls, Allen G.,	Granby, Q
Klock, Robt. Alex.,	Aylmer, Q
Lane, Campbell,	Montreal, Q
Lerou, Joseph S.	Ste. Manique, Q
Lyman, Albert C.,	Montreal, Q
Lee, William H.,	London, E
McMahon, Edmond M.,	Montreal, Q
Matthewson, R. D.,	Charlottetown, P.E.I
Marson, Louis G.,	Ste. Rose, Q
Oughtred, Allen R.,	Sheridan, O
Pease, Edson Lay,	Coteau Landing, O
Raynes, Charles,	Montreal, Q
Redpath, William W., B.A.	Montreal, Q
Rutherford, Alexander C.,	Woodstock, O
Shortis, James,	Three Rivers, Q
Smith, Robert C.	Montreal, Q
Trudel, Louis P.,	Montreal, Q
Ussher, Brawdon B., Rev.,	Dublin, I
Weir, William A.,	Montreal, Q

Second Year.

Alguire, John C.,	Cornwall, O
Atwater, Albert W., B.A.	Montreal, Q
Austin, Joseph E.,	" Q
Berthelot, Joseph B.,	" Q
Biron, Jean B. S.,	" Q
Brackenridge, J. Wm.,	Perth, Scotland.
Chartrand, Alfred J.,	Montreal, Q
Cooke, J. P.,	Drummondville, Q
Creighton, James G. A.,	Halifax, N. S
DeBeaumont, Alfred L.,	Montreal, Q
DeMartigny, Charles L.,	" Q
Doré, Pierre J.,	Laprarie, Q
Dugas, Francois O.,	Montreal, Q
Goyette, Gonzalve H.D.,	Beauharnois, Q
Hammond, Henry R.,	Chatham, Q
Hunter, Herbert S.,	Montreal, Q
Ingalls, Allen G.,	" Q
Jackson, Samuel W.,	" Q
Laplante, Jean B.,	St. Stanislas, Q
Lafleur, Eugene, B.A.	Montreal, Q
Madore, Camille, N.	Dame de Graces, Q
McLennan, William,	Montreal, Q
McKercher, John,	" Q
McFee, Kutusoff N., B.A.	" Q
Reddy, William B. S.,	" Q
Sharp, William P.,	London, E
Weir, Robert,	Montreal, Q

Third Year.

Bampton, George E.,	England.
Busteed, E. B.,	Danville, Q
Carter, George F.,	Montreal, Q
Cornell, Zebulon, E.,	Stanbridge, Q
Decary, Alderic,	Montreal, Q
Duncan, Alex. E., M.A.	Montreal, Q
Ethier, Leandre,	" Q
Fleet, Charles J., B. A.	" Q
Ledieu, Leon,	" Q
Leblanc, Albert, St. Chas.	Richelieu, Q
Leet, Seth P.,	Danville, Q
McLean, C. B.,	Scotland.
McNaughton, Peter J.,	Montreal, Q
Martineau, Paul G.,	" Q
McGibbon, Robert D., B.A.	" Q
Nicolls, Armine D., B.A.	Lennoxville, Q
Pillett, Henry B.,	Montreal, Q
Ross, Walter L.,	" Q
Ritchie, William F., B.A.	" Q
St. Jean, Edmund R.,	" Q
Trudel, Bouthillier, J.	" Q

FACULTY OF MEDICINE.

Ayer, Nehemiah — Woodstock, N. B
Ambrose, Thomas — Montreal, Q
Bangs, Edson Clark — Fairbault, Min.
Beer, Chas. N, — Charlottetown, P. E. I
† Browne, James L. — Chesterfield, O
Browne, Thomas L. — Ottawa, O
† Burwash, Henry J. — St. Andrews, Q
† Buller, Frank, M.D. — Montreal, Q
† Butler, Billa F. — Stirling, O
Burland, Benj'n. W. — Stottsville, Q
Cahalan, James — Wyandotte, Mich.
Cameron, Paul — Williamstown, O
Cameron, John W. — Montreal, Q
Campbell, Lorne — " Q
Campbell, Robert F. — Aylmer, O
† Carman, John B. — Iroquois, O
† Carman, Phillip E. — Iroquois, O
Carson, John H. — Port Hope, O
Cattenach, Angus M. — Dalhousie Mills, O
† Case, W. H. — Hamilton, O
† Chisholm, Murdoch, — Loch Lomond, N.S
Christie, Edward — Lachute, Q
Church, Frederick W. H. — Aylmer, Q
Church, John J. R. — Aylmer, Q
Cormack, Wm. — Guelph, O
Cowley, Daniel K. — Ottawa, O
Cuthbert, Albert E. R. — Berthier, Q
Cuzner, Mark R. — Aylmer, Q
Dafoe, Victor, — Aultsville, O
Dawson, Rankine, B. A. — Montreal, Q
Denyer, William W. — Ottawa, O
Derby, William J., — North Plantagenet, O
Dickenson, Salter M. — Cornwall, O
Dibblee, Geo. O. — St. Stephen, N. B
Drummond, Wm. H. — Montreal, Q
Dulmage, Wm. R. — Smith's Falls, O
Duncan, W. T. — Granby, Q
Dunlop, Alex. H. — Pembroke, O
Edick, George H. — Dundas, O
Fairbanks, Chas. S. — Oshawa, O
Feader, Henry C. — Iroquois, O
Fielde, Edmund C. — Prescott, O
Fraser, Henry D. — Pembroke, O
Fritz, Edmond — Windsor, N. S
Gale, Hugh — Elora, O
Gordon, Chas. M. — Ottawa, O
Grant, James A., B. A. — Ottawa, O
Graham, John — Ottawa, O
† Gray, Thomas — Brucefield, O
Grey, William L. — Pembroke, O
† Groves, George H. — Carp, O
† Gurd, David F. — Montreal, Q
Harvey, Chas. B. H. — Cleveland, Ohio.
† Hanna, Franklin — Harlem, O
Harris, Adoniran — Ingersoll, O
† Hart, George C. — Osnabruck Centre, O
Harvie, John B. — Ottawa, O
Heard, Charles D., M. A., — Charlottetown, P. E. I
Higginson, Henry A. — L'Orignal, O
Henderson, Andrew — Montreal, Q
† Henwood, Alfred J. — Brantford, O
Hurdman, B. F. W. — Aylmer, Q
Heyd, Herman E. — Brantford, O
Holmes, F. A. — Deer Island, N. B
Howard, Robt. J. B., B.A. — Montreal, Q
Howe, E. S. — Morrisonville, N. Y
Hunt, John J. — Lambeth, O
† Imrie, Andrew W. — Spencerville, O
Inksetter, David G. — Copetown, O
† Irwin, John L. — Ottawa, O
† Jackson, Jos. A., M.D. — Lawrence, N. Y
† Jamieson, Charles J. — Ottawa, O
Josephs, George E. — Pembroke, O
Klock, Robert H. — Eardley, Q
Lang, Wm. A. — St. Marys, O
Laurin, Joseph E. — Montreal, Q
† Lawford, John B. — Montreal, Q
† Lefevre, John M. — Toronto, O
Lindsay, John A. — Campbelltown, N. B
† Lloyd, Hoyes W. — Strathroy, O
Lunam, Henry, B. A. — Litchfield, Q
† Lyford, Charles C. — Roscoe, Ill.
Maas, Rudolph J. — Negaunee, Mich.
Macdonald, Alex. — Paisley, O
Macdonald, Malcolm C. — Glencoe, O
Macdonald, Robert C. — Perth, O
Macdonald, Robt. T. E. — Montreal, Q
† McArthur, John A. — Underwood, O
McCaffrey, Francis F. — New York, U. S
McCorkill, Robert K. C. G. — Montreal, Q
† McCullough, George — St. Marys, O
McCully, Oscar J., M.A. — Sussex, N. B
McDonald, John A. — Panmure, P. E. I
McEachran, William — Montreal, Q
McEvenue, John E. — Montreal, Q
McGannon, Edward A. — Prescott, O
McGillis, William C. — Montreal, Q
† McGuigan, Wm. J. — Stratford, O
McKay, James — Ottawa, O
McKenzie, Kenneth — Melbourne, Q
McKenzie, Bartholomew, E., B. A. — Aurora, O
McLean, Thomas N. — Perth, O
McLaren, David C. — Montreal, Q
McMillan, D. — Huntington, Q
† McNee, Stuart — Perth, O
McNulty, Michael — Iroquois, O
Menzies, John B. — Almonte, O
Mewburn, Frank H. — Drummondville, O
Migneault, Louis D., B. A. — Montreal, Q
Morris, William — Montreal, Q
Moore, William — Derby, O
Musgrove, Wm. J. — West Winchester, O
O'Brien, T. J. P. — Worcester, Mass.
O'Callaghan, Thos. A., B.A. — " "
O'Keefe, Henry — Lindsay, O
Ogden, Henry V., B.A. — St. Catherines, O

Oliver, George H. Dewittville, Q
Page, Thomas A. Brockville, O
Perks, Wm. C. Port Hope, O
Pinsoneault, Bernard Montreal, Q
Poaps, Allen P. Osnabruck Centre, O
Poole, Henry E. Wakefield, Q
Prendergast, Walter J., Ct. des Neiges, Q
Pringle, Alex. F. Cornwall, O
Pulford, Frederick W. Windsor, O
Reynolds, Thomas W. Brockville, O
† Riley, Oscar H. Franklin, Vt.
Riley, A. W. Morrisonville, N. Y
Rogers, Ed. J. Peterboro, O
Riordon, Bruce L. Port Hope, O
Ross, George T. Montreal, Q
Ross, John W. Winthrop, O
† Sutherford, Martin C., Waddington, N.Y
Ross, James Dewittville, Q
Ruttan, Allen M. Napanee, O
† Scott, John G. Ottawa, O
Scott, John M. Carleton Place, O
Serviss, Thos. W. Iroquois, O
† Seymour, Maurice M. Chesterville, O
Shanks, James C. Huntington, Q
Shaw, Alex. Seaforth, O
† Shaw, William F. Ottawa, O

Shaver, Jacob H. Montreal, Q
Shaver, William H. Wales, O
Shaver, Robert Williamstown, O
Shrady, George New York, U. S
Shufelt, William A. Browne, Q
Small, Henry B. Ottawa, O
Smith, W. A. D. Lachine, O
Smith, Edward H. Montreal, Q
† Smith, John Torbolton, O
Snow, Walter H. Dundas, O
† Spencer, Richmond, Montreal, Q
Stewart, James O. St. Anicet, Q
Struthers, Alex. D. Phillipsburg, Q
Struthers, Robt. B. Phillipsburg, Q
† Sutherland, William R. Montreal, Q
Thornton, H. W., B.A., Montreal, Q
Thompson, Wm. E., Harbor Grace, Nfld
Trueman, James E. Sackville, N. B
Tupper, Freeman Milton, N. S
Vanier, Philias St. Martin, Q
Wagner, Geo. C., Dickenson's Landing, O
† Weagant, Clar. A. Gallingertown, O
Williams, Joseph London, O
† Williston, Hedley V., M. A. Newcastle, N. B

† M. D., C. M. 1879.

FACULTY OF ARTS.

Undergraduates in Arts.

First Year.

Barber, Henry W. Streetsville, O
Barron, Thomas J. Lachute, Q
Belcher, Frederick G. Montreal, Q
Chaffee, Azro B. Montreal, Q
Clipsham, John W. St. Lambert's, Q
Cockfield, Henry Montreal, Q
Fraser, James Dundee, O
Fry, Henry Quebec, Q
Hague, Henry J. Montreal, Q
Lafleur, Henri A. Montreal, Q
Macrae, Lawrence O. Montreal, Q
McKillop, Peter C. Inverness, Q
Martin, Alfred W. Montreal, Q

Morin, Jos. L. Three Rivers, Mass. U. S
Reid, John T. North Mountain, O
Richardson, Alex. W. Montreal, Q
Richardson, Jas. S. S. Yarmouth, N. S.
Rielle, Norman T. Montreal, Q
Shirriff, George R. Huntingdon, Q
Smith, Arthur W. Lachine, Q
Stewart, Robert Lachute, Q
Stirling, Robert Montreal, Q
Thomas, Francis W. G. Montreal, Q
Trenholme, Chas. W. Montreal, Q
Westlake, Henry W. Exeter, O
Whillans, George Ottawa, O

Second Year.

Ami, Henry Mark Ottawa, O
Ami, Samuel Ottawa, O
Black, Charles Granby, Q
Bracq, John C. Grand Ligne, Q
Elder, John Huntington, Q
Falconer, Alexander Montreal, Q
Ferguson, William A., Richibucto, N. B.
Gamble, Robert Billing's Bridge, O
Gowanloch, James B. Chatham, Q
Gregor, Leigh R. Charlottetown, P.E. I.
Hay, William Paisley, O
Jones, John E. Digby, N. S.
Lawford, Charles A. Montreal, Q
Lyman, Walter E. Montreal, Q

McDonald, Hector C., Flat River, P.E.I.
McGibbon, Alexander Montreal, Q
McLeod, Alvan Brooklyn, N. S
MacLeod, Archibald Orwell, P. E. I
McNabb, Robert Woodville, O
Macpherson, Kenneth R. Montreal, Q
Powell, Gregory John Guelph, O
Robertson, George Garafraxa, O
Rutherford, Alexander C. Ormond, O
Scott, Frederick G. Montreal, Q
Tucker, John W. Sorel, Q
Weeks, Wm. A. Charlottetown, P.E. I
Weir, Frank Montreal, Q
White, William John Montreal, Q

THIRD YEAR.

Allen, Frank A.	Huntingdon, Q
Bayne, George D.	Montreal, Q
Bennet, James	Montreal, Q
Bull, Harcourt J.	Montreal, Q
Craig, James A.	Fitzroy Harbour, O
Cunningham, Thomas E.	Montreal, Q
Currie, Dougald	Crinan, O
Darey, J. Herbert	Montreal, Q
Keays, Charles H.	Hamilton, O
Klock, Robert A.	Aylmer, Q
Lafleur, Paul T.	Montreal, Q
Larivière, Vitalien	Roxton Falls, Q
McIntyre, Hector A.	Manilla, O
McKenzie, William A.	Lanark, O
Molson, Charles A.	Montreal, Q
Muir, A. C.	North Georgetown, Q
Ogilvie, Arch.	North Georgetown, Q
Pillsbury, Carroll E.	Augusta, M., U. S.
Raynes, Charles	Montreal, Q
Roberts, George F.	Montreal, Q
Scriver, Charles W.	Hemmingford, Q

FOURTH YEAR.

Cross, Alexander S.	Huntingdon, Q.
Eadie, Robert	Oakland, Q
Howard, Robert J. B.	Montreal, Q
Lane, Campbell	Montreal, Q
Lighthall, William D.	Montreal, Q
McClure, William	Lachute, Q
McConnell, Richard G.	Chatham, Q
McKibbin, Robert	Montreal, Q
Mercer, Walter D.	Montreal, Q
Redpath, William W.	Montreal, Q
Stevens, William H.	Manilla, O
Wood, Holton H.	Montreal, Q

Partial and Occasional.

Allard, Joseph	Birr, O
Amaron, Calvin E., B. A.	Berthier, Q
Anderson, Alex.	Billingsbridge, O
Baillie, J. K.	
Balmer, Robert H.	Toronto, O
Bareham, Alfred	Montreal, Q
Bates, Martin J.	
Bayne, George T.	Nepean, Q
Blakely, Malcolm D., B.A.	Bristol, Q
Bland, S. G., B. A.	Quebec, Q
Bolton, Charles E.	Bolton, O
Bowers, Alfred A.	Kincardine, O
Bruneau, Ishmael P.	St. Constant, Q
Cameron, Daniel G.	Metcalfe, O
Campbell, John L.	Montreal, Q
Carrière, Samuel	
* Currie, Walter T.	Toronto, O
Dow, James E.	Montreal, Q
Ford, James E.	Peterboro', O
* Fuller, George	Truro, N. S.
Geddes, Wm. H.	Ottawa, O
Gibson, John	Vankleek Hill, O
Godfrey, C. H.	
Grant, John P.	Metcalfe, O
* Griffith, George M.	Montreal, Q
Hall, Rev. Wm., M. A.	Montreal, Q
Henderson, George W.	Sparta, O
* Hitchcock, Gilbert	Massawippi, Q
Internoscia, Antonio	Montreal, Q
Jewel.	
Knechtel, Valentine	Brussels, O
McCrae, D. L.	Brussels, O
McCunn, Drummond	Montreal, Q
McFarland, James	Ottawa, O
McGregor, Wm. D.	Cote des Neiges, Q
McKechnie, Robert W.	Montreal, Q
McLachlan, James A.	Bristol, Q
McLennan, William	Montreal, Q
Mallory, D. E.	Mallorytown, O
Matheson, John, B. A.	Montreal, Q
Mitchell, John	Montreal, Q
Morkill, John T.	Montreal, Q
Morrison, John A.	Rona, P. E. I.
Munro, John	Montreal, Q
Nelson, Wolfred, M. D.	Montreal, Q
O'Brien, Douglas C.	Montreal, Q
O'Dwyer, John S.	Granby, Q
Orme, Thomas H.	Birr, O
Pelletier, George A.	St. Anne, Ill., U. S
Richards, James E.	Montreal, Q
Robertson, H. McN.	Barrington, N. S.
Saer, John B.	St. Clear's
Scott, Matthew H., B. A.	Eramosa, O
* Shipperley, James M.	Yarmouth, N.S.
Shortis, James	Three Rivers, Q
Stewart, J. B.	Innisville, O
Sweeny, James F., B.A.	Montreal, Q
Taylor, Samuel J.	Cartwright, O
Thicke, Septimus	Montreal Q
Townsend, John A.	Billingsbridge, O
Vissir, Andreas A. H.	Navan, O
White, T. G.	

* *Partial Students.*

FACULTY OF APPLIED SCIENCE.

First Year.

Burland, J. H.	Montreal, Q	Hague, F. G.	Cobourg, O
Cains, F.	Breadalbane, O	Low, A. P.	Montreal, Q
Foster, P. L.	Kingston, O	Skaife, L. J.	Montreal, Q
Gnœdinger, F. G.	Montreal, Q	Stephen, G. C.	Montreal, Q
Green, T. D.	Brantford, O	Waddell, M.	Port Hope, O

Second Year.

Archbald, A. H.	Montreal, Q	Drummond, T.	Edinburgh, S
Bolton, T.	Newmarket, O	Richard, L. W.	Montreal, Q
Busteed, F. F.	Montreal, Q	Waddell, R. W.	Cobourg, O
Collins, J. J.	Montreal, Q		

Third Year.

Dudderidge, J.	Lachute, Q	Skaife, W. T.	Montreal, Q
O'Dwyer, J. J.	Granby, Q	Smith, W. H. C.	Montreal, Q
Robertson, W. F.	Montreal, Q		

Occasional.

Donald, J. T., B. A.	Montreal, Q	Nelson, W.	Montreal, Q
Fish, W. E.	Newcastle, N. B	Ogilvie, A.	Montreal, Q
Morkill, J. T.	Sherbrooke, Q	Swan, J.	Montreal, Q
Muir, A. C.	Georgetown, Q		

MORRIN COLLEGE.

FACULTY OF ARTS.

Undergraduates.

Cassels, Charles E.	Three Rivers, Q	McConchy, Archibald W.	Leeds, Q
Duclos, Charles A.	Quebec, Q	Maxwell, Andrew B.	New Carlisle, Q
Dunlop, Henry B.	Quebec, Q	Paterson, James T.	Windsor, Q
Ferguson, James D.	Quebec, Q	Pyke, John	Quebec, Q
Ferguson, John A.	Quebec, Q	Stevenson, Walter	Quebec, Q
Hemming, Henry	Montreal, Q	Tregett, George	Quebec, Q
Hewett, James	Quebec, Q	Walker, Edward G.	Quebec, Q

Besides 25 Occasional Students.

ST. FRANCIS COLLEGE.

FACULTY OF ARTS.

Undergraduates.

Brooke, George H. A.	Richmond, Q	Paterson, Andrew	Richmond, Q
Brown, Albert J.	Windsor Mills, Q	Pritchard, John G.	Richmond, Q
Duffett, Henry	Leeds, Q	Ramsay, George	Orillia, O
Evans, William J.	Kingsey, Q	Robertson, Francis D.R.	Lennoxville, Q
Holland, Charles E.	Melbourne, Q	Steel, Henry	Richmond, Q
Kinnear, George	Kinnear's Mills, Q	Watson, John	Kingsbury, Q
Macy, Ernest McC.	Melbourne, Q		

Partial and Occasional.

Kranz, John	Freligshburg, Q	Piton, Ernest H. N.	S. Quebec, Q
McKenzie, Peter S. G.	Melbourne, Q		

SUMMARY.

Students in Law, McGill College,		83
" in Medicine "		166
" in Arts "	Undergraduates,	87
	Partial and Occasional,	62
" in Applied Science,	Undergraduates,	22
	Occasional,	7
" " Morrin College,	Undergraduates,	14
	Occasional,	25
" " St. Francis College,	Undergraduates,	13
	Partial and Occasional,	3
		482
Total number of Students,		5
Deduct entered in two Faculties,		477
		132
Teachers in training in Normal School,		340
Pupils in Model Schools,		949
Total Students and Pupils,		

Passed the University Examinations.

SESSION 1878-9.

FACULTY OF LAW.

PASSED FOR THE DEGREE OF B. C. L.

Armine D. Nicolls, B. A.
Robert D. McGibbon, B. A.
George E. Bampton.
William F. Ritchie, B. A.
E. B. Busteed.
George F. Carter.
Charles J. Fleet, B. A.
Paul G. Martineau.
B. C. McLean.
Albert Leblanc.
Z. E. Cornell.
Boutillier J. Trudel.
Walter Lord Ross.
Leandre Ethier.
Alexander E. Duncan.
Peter J. McNaughton.
Edmond R. St. Jean.
J. Henri Pillet.
Leon Ledieu.
Alderic Decary.
Seth P. Leet.

FACULTY OF MEDICINE.

PASSED FOR THE DEGREE OF M.D., C.M.

(Arranged Alphabetically.)

Brown, J. L.
Burwash, Henry J.
Butler, Billa F.
Carman, Philip E.
Carman, John B.
Chisholm, Murdoch.
Case, William.
Gray, Thomas.
Groves, George H.
Gurd, David F.
Hart, George C.
Hanna, Franklin.
Henwood, Alfred J.
Imrie, Andrew W.
Irwin, J. L.
Jackson, Joseph A.
Jamieson, Chas. J.
Lawford, John B.
Lefebvre, John M.
Lloyd, Hoyes W.
Lyford, Chas. C.
McArthur, John A.
McCully, Oscar J., M. A.
McCullough, George.
McGuigan, William J.
McNee, Stuart.
Menzies, John B.
Riley, Oscar H.
Rutherford, M. C.
Scott, John G.
Seymour, Maurice M.
Shaw, William F.
Smith, John.
Spencer, Richmond.
Sutherland, William R.
Weagant, Clarence A.
Williston, Hedley V., M. A.

PASSED THE PRIMARY EXAMINATIONS.

Ayer, N.
Browne, T. L.
Beer, Charles N.
Cameron, P.
Church, F. W.
Cahalan, J.
Cowley, D. K.
Dibblee, G. O.
Edwards, J. S.
Fielde, E. C.
Fraser, D. H.
Gray, W. L.
Heyd, H. E.
Higginson, H. A.
Henderson, A.
Josephs, G. E.
Laurin, E. J.
Lang, W. A.
Maas, R. L.
Mignault, L. D., B. A.
McDonald, M. C.
McDonald, J. A.
McDonald, R. T.
Mackenzie, K.
Mackenzie, B. E., B.A.
McLaren, D. C., B.A.
McGannon, E. A.
O'Calaghan, T. A., B. A.
Pringle, A. F.
Pulford, F. W.
Ross, G. T.
Ross, J. W.
Ruttan, A. M.
Riordan, B. L.
Rogers, E. J.
Stewart, J.
Serviss, F. W.
Smith, E. H.
Snow, W. H.
Struthers, R. B.

FACULTY OF ARTS.

PASSED FOR THE DEGREE OF B. A.

In Honours.

(Alphabetically Arranged.)

First Rank.—CROSS, ALEX. S.
EADIE, ROBT.
HOWARD, ROBT. J. B.
LIGHTHALL, WM. D.
MCCLURE, WM.
MCCONNELL, RICHARD G.

Ordinary.

(In order of Merit.)

Class I.—STEVENS, WILLIAM H.
WOOD, HOLTON. H.
LANE, CAMPBELL. } equal.
REDPATH, WILLIAM W. }

Class II.—None.

Class III.—MCKIBBIN, ROBERT.

PASSED THE INTERMEDIATE EXAMINATION.

(1) *McGill College.*

Class I.—FALCONER, GREGOR, TUCKER, WEEKS, JONES, MCLEOD (ARCH.), FERGUSON.

Class II.—ROBERTSON, GOWANLOCH, POWELL, ELDER, AMI (HY. M.), BRACQ, LYMAN, MCLEOD (ALVAN), WHITE, RUTHERFORD, MACPHERSON.

Class III.—BLACK, WEIR, GAMBLE and MCNABB, MCDONALD and LAWFORD.

(2) *Morrin College.*

Class I.—DUCLOS.

Class II.—None.

Class III.—None.

(3) *St. Francis College.*

Class I.—None.

Class II.—PRITCHARD.

Class III.—RAMSAY.

BACHELORS OF ARTS PROCEEDING TO THE DEGREE OF M. A. IN COURSE.

DAWSON, (WILLIAM B.), B. A.
EMPSON, (JOHN), B. A.
CHANDLER, (GEORGE H.), B. A.

MASTERS OF ARTS PROCEEDING TO THE DEGREE OF LL.D. IN COURSE.

WICKSTEED, (RICHARD J.), M. A.
CUSHING, (LEMUEL), M. A.

Scholarships and Exhibitions.

SESSION 1878-9.

I.—SCHOLARSHIPS (Tenable for Two Years).

Year of Commencement.	Name of Scholar.	Subject of Examination.	Annual Value.	Founder or Donor.
1877	McClure, Wm..	Science.	$125	W.C. MacDonald, Esq.
1877	McConnell, R. G	Science.	125	W.C. MacDonald, Esq.
1877	Cross, Alex. S..	Class & Mod. Lan.	125	W.C. MacDonald, Esq.
1877	Eadie, Robert..	Class & Mod. Lan.	125	W.C. MacDonald, Esq.
1878	Currie, Dugald..	Science.	125	W.C. MacDonald, Esq.
1878	Lafleur, Paul T.	Class & Mod. Lan.	125	W.C. MacDonald, Esq.
1878	Darey, J. Herb't	Class & Mod. Lan.	120	Chas. Alexander, Esq.

II.—EXHIBITIONS (Tenable for One Year).

Name of Exhibitioner.	Academic Year.	Annual Value.	Founder or Donor.
Falconer, Alexander.....	Second Year.	$125	W. C. MacDonald, Esq.
Ferguson, William A.....	"	125	W. C. MacDonald, Esq.
Lafleur, Henri A.....	First Year.	125	W. C. MacDonald, Esq.
Fry, Henry.....	"	125	W. C. MacDonald, Esq.
Rielle, Norman T.....	"	100	Mrs. Jane Redpath.
Fraser, James.....	"	100	the Governors.

Prizes, Honours and Standing.

Session 1878-9.

FACULTY OF LAW.

GRADUATING CLASS.

ELIZABETH TORRANCE MEDAL.—ARMINE D. NICOLLS, B. A.

ELIZABETH TORRANCE PRIZE.—ROBERT D. MCGIBBON, B. A.

Prize for best Thesis.—L. J. ETHIER.

Passed with First Rank Honours :—ARMINE D. NICOLLS, B. A., ROBERT D. MCGIBBON, B. A., GEORGE E. BAMPTON, W. F. RITCHIE, E. B. BUSTEED.

(For Third Year's Students passed for this Degree, see Graduating Lists.)

Standing in the Several Classes.

INTERNATIONAL LAW.—PROFESSOR KERR.

First, MCGIBBON, Professor's Prize.

Second, NICOLLS.

CIVIL LAW.—PROFESSOR RAINVILLE.

First, NICOLLS.

Second, MCGIBBON and RITCHIE, equal.

ROMAN LAW.—PROFESSOR TRENHOLME.

First, NICOLLS.

Second, MCGIBBON and BAMPTON, equal.

COMMERCIAL LAW.—PROFESSOR WURTELE.

First, BAMPTON, Professor's Prize.

Second, NICOLLS.

CRIMINAL LAW.—LECTURER ARCHIBALD.

First, MCGIBBON, NICOLLS and BAMPTON, equal.

Second, RITCHIE.

LEGAL HISTORY.—LECTURER LAREAU.

First, NICOLLS and MCGIBBON, equal.

Second, BAMPTON.

CIVIL PROCEDURE.—LECTURER HUTCHINSON.

First, FLEET and MCGIBBON, equal.

Second, NICOLLS.

SECOND YEAR.

Passed with First Rank Honours :—ATWATER, First Prize; MCFEE, Second Prize; WEIR, LAFLEUR, SHARP.

Standing in the Several Classes.

INTERNATIONAL LAW.—PROFESSOR KERR.

First, ATWATER.

Second, MCFEE.

CIVIL LAW.—Professor Rainville.
First, Atwater and Weir, equal.
Second, McFee and Dugas, equal.
COMMERCIAL LAW.—Professor Wurtele.
First, Atwater.
Second, Madore.
ROMAN LAW.—Professor Trenholme.
First, Atwater and Lafleur and Weir, equal.
Second, McFee.
CRIMINAL LAW.—Lecturer Archibald.
First, Atwater and McFee, equal.
Second, Sharpe.
LEGAL HISTORY.—Lecturer Lareau.
First, Atwater and McFee, equal.
Second, Lafleur.
CIVIL PROCEDURE.—Lecturer Hutchinson.
First, McFee.
Second, Atwater.

Passed the Sessional Examinations :—Albert W. Atwater, B. A., K. N. McFee, B. A., Robert Weir, Eugene Lafleur, B. A., William P. Sharp, John McKercher, Joseph P. Cook, Francois O. Dugas, Camille Madore, Joseph F. Pinchaud, Samuel M. Jackson, John C. Alguire, Alfred L. De Beaumont, Joseph E. Austin, Jean B. Laplante, Henry R. Hammond, William McLennan, William B. S. Reddy, Herbert S. Hunter, Gonzalve D. Goyette, Alfred J. Chartrand.

FIRST YEAR.

Passed with First Rank Honours :—Weir, First Prize ; Oughtred, Second Prize ; Bothwell, Rutherford.

Standing in the Several Classes.

CIVIL LAW.—Professor Rainville.
First, Weir.
Second, Rutherford.
COMMERCIAL LAW.—Professor Wurtele.
First, Rutherford.
Second, Weir and Oughtred, equal.
ROMAN LAW.—Professor Trenholme.
First Weir.
Second, Oughtred.
CRIMINAL LAW.—Lecturer Archibald.
First, Lyman.
Second, Oughtred.
LEGAL HISTORY.—Lecturer Lareau.
First, Ingalls and Weir, equal.
Second, Oughtred.
CIVIL PROCEDURE.—Lecturer Hutchinson.
First Weir.
Second, Oughtred and Raynes, equal.

Passed the Sessional Examinations :—William A. Weir, Allen R. Oughtred, Joseph S. Bothwell, Alexander C. Rutherford, Allen G. Ingalls, Charles Raynes, Robert C. Smith, Alexander Cross, Albert C. Lyman, Edmond M. McMahon, Hon. Henry Aylmer, Rev. J. L. Forster, Donald Downie, Campbell Lane, R. D. Matheson, William W. Redpath, George G. Foster, A. L. DeMartigny, Antoine A. Gauthier, Louis G. A. Cresse, Louis P. Trudel, James Shortiss.

——:o:——

FACULTY OF MEDICINE.

John B. Lawford, of Montreal, for Thesis and best Examination in all the branches of Study.—Holmes Gold Medal.

A. W. Imrie, Spencerville, Ont., Prize for the best Examination in the Final Branches.

Students deserving honourable mention in the Final Branches :—Shaw, Gray, Sutherland, Williston.

John Andrew McDonald, of Panmure, Ont., Prize for the best Examination in the Primary Branches.

W. L. Gray, of Pembroke, Ont., for Chemistry and Primary Examination.—Sutherland Gold Medal.

Charles N. Beers, Prize in Practical Anatomy.—*Senior Class.*

James Ross, B. A., Prize in Practical Anatomy.—*Junior Class.*

William Moore, Prize in Practical Chemistry.

H. V. Ogden, Prize in Botany.

G. W. Cameron and T. A. Holmes, Second Prize in Botany.

Students deserving of honourable mention in the Primary Branches :—Josephs Gray (W. L.), Ross (J. W.), Beers, Rogers, Henderson, Struthers (R. B.), Heyd.

[For Standing in the Several Classes, see Medical Announcement (P.85).]

——:o:——

FACULTY OF ARTS.

GRADUATING CLASS.

B. A. Honours in Mathematics and Natural Philosophy.

William McClure.—First Rank Honours and Anne Molson Gold Medal.

B. A. Honours in Classics.

Robt. Eadie.—First Rank Honours and Chapman Gold Medal.

B. A. Honours in Natural Science.

Robt. J. B. Howard.—First Rank Honours and Logan Gold Medal.

Rich. G. McConnell.—First Rank Honours and Logan Prize.

B. A. Honours in Mental and Moral Philosophy.

Alex. S. Cross.—First Rank Honours and Prince of Wales Gold Medal.

B. A. Honours in English Language, Literature and History.

Wm. D. Lighthall.—First Rank Honours and Shakspere Gold Medal.

Dufferin Prize for Historical Essay.

Wm. D. Lighthall.

Stewart Prize in Hebrew.

John Matheson B. A.

Third Year.

J. Herbert Darey.—First Rank Honours in Classics and Prize; First Rank General Standing; Second Prize in Zoology.

Harcourt J. Bull.—First Rank Honours in Mental and Moral Philosophy and Prize; First Rank General Standing.

Paul T. Lafleur.—First Rank Honours in English Language and Literature and Prize; Prize in Classics.

Thomas E. Cunningham.—First Rank Honours in Mental and Moral Philosophy and Prize.

Charles A. Molson.—First Rank Honours in Natural Science and Second Prize in Zoology.

Dugald Currie.—Second Rank Honours in Eng.ish Language and Literature; First Rank General Standing; Prize for Collection of Plants; Prize in Rhetoric.

George T. Roberts.—Second Rank Honours in Mental and Moral Philosophy; Prize in Zoology.

James A. Craig.—Second Rank Honours in Mental and Moral Philosophy.

Archibald Ogilvie.—Second Rank Honours in Natural Science.

PASSED THE SESSIONAL EXAMINATIONS.

Darey, Currie, Bull, Lafleur, Cunningham; Molson and Roberts, equal; Pillsbury, Bayne and Craig and Ogilvie, equal; Raynes, Lariviere, Allen, McIntyre, Klock, Muir, Keays, Scriver (*aeger*).

Second Year.

William A. Weeks.—(Prince of Wales College, P. E. I.,)—First Rank Honours in Mathematics and Prize.

Alexander Falconer.—(High School, Montreal.—First Rank General Standing; Prize in Logic; Prize in Botany; Prize in English; Prize in German.

John W. Tucker.—(Normal School, Montreal.)—First Rank General Standing; Prize in French.

George Robertson.—(Douglas School, Garafraxa, O.).—Prize in Hebrew.

Henry M. Ami.—(Ottawa Collegiate Institute.)—Prize in Botany.

Frank Weir.—(High School, Montreal.)—Prize in English Literature.

Leigh R. Gregor.—(Prince of Wales College, P. E. I.)—Prize in English Literature.

PASSED THE SESSIONAL EXAMINATIONS.

Falconer, Gregor, Tucker, Weeks, Jones, McLeod (Arch.), Ferguson, Robertson, Gowanloch, Powell, Elder, Ami (Hy. M.), Bracq, Lyman, McLeod (Alvan), White, Rutherford, Macpherson, Black, Weir, Gamble and McNabb, McDonald and Lawford.

P. C. McKillop.—(Canadian Literary Institute, Woodstock.)—Second Rank Honours in Mathematics and Prize.

Henry Fry.—(High School, Quebec.)—First Rank General Standing; Prize in Classics and History; Prize in Chemistry.

Henry J. Hague.—(Upper Canada College.)—First Rank General Standing; Prize in Classics and History.

Norman G. Rielle.—(Proprietary School, Montreal.)—First Rank General Standing; Prize in English Essay.

Henri A. Lafleur.—(High School, Montreal.)—Prize in Classics, Prize in English Literature and Second Essay Prize.; Prize in French.

George Whillans.—(Ottawa Collegiate Institute.)—Prize in Hebrew.

Joseph L. Morin.—(Presbyterian College, Montreal.)—Prize in French.

Alfred W. Martin.—(High School, Montreal.—)Prize in German.

First Year.

PASSED THE SESSIONAL EXAMINATIONS.

Fry, Hague, Rielle, Lafleur, Whillans, Morin, Trenholme, Fraser, McKillop, Martin, Smith, Richardson J. S., Thomas, Stirling, Clipsham, Barron, Cockfield, Stewart.

At the Examinations in September 1878, the following *Scholarships* and *Exhibitions* were awarded:—

Third Year.—Currie and Lafleur (P. T.):—*W. C. MacDonald Scholarships.*
Darey: *the Charles Alexander Scholarship.*

Second Year.—Falconer and Ferguson:—*W. C. MacDonald Exhibitions.*

First Year.—Lafleur (H. A.) and Fry:—*W. C. MacDonald Exhibitions.*
Rielle: *the Jane Redpath Exhibition.*
Fraser: *the Governors' Exhibition.*

CHRISTMAS EXAMINATIONS, 1878.

GREEK.

THIRD YEAR.—*Class I.*—Darey, McKenzie;—Currie and Keays, equal;—Bull and Craig, equal;—Lafleur, (P. T.). *Class II.*—Roberts;—Bayne and Cunningham, equal;—Bennett, Pillsbury, Ogilvie;—Larivière and McIntyre and Molson, equal;—Scriver, Klock, Allen.
Class III.—Muir, Raynes.

SECOND YEAR.—*Class I.*—Falconer, McLeod (Archd.), Gregor;—Elder and Tucker, equal;—Weeks.—*Class II.*—Powell;—Bracq and Jones, equal;—Lyman, Ferguson, Gowanloch, Robertson, McNabb, McDonald, —McLeod (Alvan) and White, equal.—*Class III.*—Rutherford, Gamble, Ami (Hy. M.), Black, Macpherson, McGibbon;—Hay and Scott, equal;—Lawford.

FIRST YEAR.—*Class I.*—Fry, Lafleur (Hen. A.);—Rielle and Hague, equal.
Class II.—Whillans, McKillop, Stirling, Martin, Morin, Richardson, (Jas.), Reid, Fraser, Clipsham, Barron;—Cockfield and Smith equal.
Class III. Trenholme, Macrae, Thomas;—Chaffee and Shirriff, equal;—Belcher and Stewart, equal;—Fuller, Barber, Shipperley.

LATIN.

THIRD YEAR.—*Class I.*—Lafleur (P. T.), Bull, Darey;—McKenzie and Keays, equal;—Roberts. *Class II.*—Bayne and Raynes, equal;—Craig, Scriver;—Cunningham and Molson and Ogilvie, equal;—Bennett. *Class III.*—Pillsbury and Klock, equal;—Larivière, Muir;—Allen and McIntyre, equal.

SECOND YEAR.—*Class I.*—Falconer, Gregor, McLeod, (Archd.);—Elder and Tucker, equal;—Weeks. *Class II.*—Jones, Lyman, Powell, Gowanloch;—Bracq and Ferguson, equal;—McDonald, Rutherford;—Ami (Hy. M.) and Black and Robertson, equal.—*Class III.*—McLeod (Alvan) and White, equal;—Gamble, Macpherson, Scott, Hay;—McGibbon and McNabb and Weir, equal;—Ami (Samuel), Lawford.

FIRST YEAR.—*Class I.*—Fry, Rielle, Hague, Lafleur (Hen. A.).
Class II.—McKillop and Martin and Whillans, equal;—Richardson, (Jas.);—Morin and Trenholme, equal;—Stirling, Reid;—Cockfield and Smith and Thomas, equal. *Class III.*—Belcher, Fraser;—Barron and Clipsham and Macrae, equal;—Stewart, Fuller, Shirriff, Chaffee.

ENGLISH LITERATURE.

FOURTH YEAR.—*Class I.*—Lighthall, Wood, Lane, Stevens. *Class II.*—Redpath.

RHETORIC.

THIRD YEAR.—*Class I.*—McKenzie and Currie and Darey, equal; Bull and Raynes, equal; Mitchell; Lafleur and Pillsbury, equal;
Class II.—Scriver; Bennett and Ogilvie, equal; Craig and Roberts, equal; Molson, Muir. *Class III.*—Klock.

Molson (C. A.). *Class II.*—None. *Class III.*—Scriver, Bull, Bayne (G. D.), Lafleur (P. T.), Larivière, Allen, Ogilvie, Raynes; Keays and McIntyre, equal; Craig, Bennett, Muir (A. C.).

MATHEMATICS.

SECOND YEAR.— *Class I.*—Falconer, Ferguson, Weeks, Ami (H. M.), Jones. *Class II.*—Robertson; Gregor and Tucker, equal; Elder and McLeod (Archibald), equal; Rutherford. *Class III.*—Gowanloch, Powell, Black, Gamble, White, Bracq, Lyman (W. E.), McGibbon, McNabb, McDonald, Weir, Macpherson.

FIRST YEAR.—*Class I.*—Reid, Trenholme, Whillans, Fry, McKillop. *Class II.*—Thomas, Richardson (J. S), Hague (H. J.), Fraser, Barron. *Class III.*—Cockfield, Lafleur (H. A.), Smith, Rielle, Morin, Stewart, Currie (W. T.), Richardson (A. W.), Macrae, Clipsham, Chaffee, Belcher, Shirriff.

EXPERIMENTAL PHYSICS.

FOURTH YEAR.—*Class I.*—Stevens; McClure and McConnell, equal; Cross, Wood, Redpath. *Class II.*—None. *Class III.*—Howard, Lighthall.

HIRD YEAR.—*Class I.*— Pillsbury, Darey; Bull and Molson and Scriver, equal; Currie and Roberts, equal; *Class II.*—Keays, Raynes. *Class III.*—Lafleur (P. T.), Craig, Muir, Ogilvie, Bennett.

MINERALOGY AND GEOLOGY (in part).

FOURTH YEAR.—*Class I.*—Howard, McConnell, Stevens, Wood, Lane, Mitchell, Also Eadie and Mercer (Geology only). *Class II.*—McClure, McKibbin. Also Stewart (Geology only). *Class III.*—Geddes.

ZOOLOGY.

THIRD YEAR.—*Class I.*—Molson and Roberts, equal; Lafleur (P. T.), McKenzie, Cunningham, Currie, Scriver, Darey, Pillsbury, Ogilvie.
Class II.—McIntyre, Craig, Larivière, Bayne, Klock.
Class III.—Allen, Muir, Bennett, McFarland.

BOTANY.

SECOND YEAR.—*Class I.*—Falconer, Elder, Robertson, Ferguson, Ami (H. M.), Weeks, Gregor. *Class II.*—Gowanloch, Jones, Powell, McDonald, Macpherson, Black, Lyman, White, Bracq, O'Dwyer, Tucker, Campbell McGibbon, McNabb, McLeod (Arch.), Scott, Weir. *Class III.*—Gamble, McLeod (Alvan), Godfrey, Ami (S), Rutherford, Lawford, Hay,

CHEMISTRY.

FIRST YEAR.—*Class I.*—Lafleur (H. A.), Hague (H.), Reid, Trenholme.
Class II.—Morin, Whillans, Rielle, Fry, Barron, Clipsham.
Class III.—Fraser; Barber and Stirling, equal; Shirriff and Currie, (W.T.), equal; McKillop, Thomas; Westlake and Godfrey, equal; Hitchcock, Macrae, Smith, Richardson (J.), Chaffee, Fuller, Martin, Stewart, Richardson (A.), Cockfield, Belcher.

FRENCH.

THIRD YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Klock and M ir equal.

SECOND YEAR.—*Class I.*—McLeod (Arch.) and Tucker, equal; Bracq and Falconer and Gregor, equal. *Class II.*—Ami (Henri), Macpherson, Weeks, Elder, Jones, Lyman. *Class III.*—Lawford, Ami (Samuel), White, Ferguson, Rutherford, Weir, McDonald, McGibbon.

FIRST YEAR.—*Class I.*—Morin; Lafleur (H. A.) and Rielle, equal; Hague (H.) Richardson (J.), Fry, Trenholme. *Class II.*—Barron, Thomas, Stirling, Smith; Cockfield and Martin, equal; Chaffee. *Class III.*—Belcher, Stewart, Fraser, Macrae, Richardson (Alex.), Barber, Reid.

GERMAN.

THIRD YEAR.—*Senior Division.*—*Class I.*—None. *Class II.*—Lafleur (P.T.), Bonnett. *Class III.*—None.

Junior Division.—*Class I.*—None. *Class II.*—None. *Class III.*—Keays.

SECOND YEAR.—*Senior Division.*—*Class I.*—Falconer, Lyman, Jones. *Class II.*—None. *Class III.*—None.

Junior Division.—*Class I.*—McLeod (Arch.), Ami (H. M.). *Class II.*—None *Class III.*—None.

FIRST YEAR.—*Class I.*—Lafleur (H. A.), Martin, Rielle. *Class II.*—None. *Class III.*—Barron; McKillop (P.) and Richardson (J. S. S.), equal

SESSIONAL EXAMINATIONS, 1879.

ORDINARY COURSE IN ARTS.

GREEK.

B. A. ORDINARY.—*Class I.*—Eadie, Stevens. *Class II.*—Wood, Mercer, McKibbin. *Class III.*—None.

THIRD YEAR.—*Class I.*—Darey (prize) and Keays, equal;—Bull and Lafleur (Paul T.), equal;—Roberts;—Craig and Currie (D.), equal. *Class II.*—Raynes, Bayne, Ogilvie, Cunningham, Molson;—Larivière and Pillsbury, equal; Klock. *Class III.*—Scriver, McIntyre, Allen, Muir.

SECOND YEAR.—*Class I.*—Falconer, Gregor, McLeod (Arch.);—Elder and Tucker, equal;—Jones, Ferguson, Weeks, Gowanloch. *Class II.*—Bracq, Lyman;—Gamble and Robertson, equal;—McNabb;—Black and McLeod (Alvan) and Powell, equal. *Class III.*—McDonald and Macpherson, equal;—Ami (Hy. M.) and White, equal;—Lawford and Weir, equal;—Rutherford.

FIRST YEAR.—*Class I.*—Fry (prize) and Hague (H. J.) (prize) and Lafleur (H.) (prize), equal;—Rielle. *Class II.*—Whillans, Richardson (J. S. S.), Morin, Fraser, Smith;—Cockfield and McKillop and Trenholme, equal;—Stirling, Clipsham. *Class III.*—Thomas;—Barron and Martin, equal;—Stewart, Shirriff, Macrae, Fuller, Belcher.

LATIN.

B. A. ORDINARY.—*Class I.*—Eadie;—Mercer and Stevens and Wood, equal. *Class II.*—Lane, Redpath. *Class III.*—McKibbin.

THIRD YEAR.—*Class I.*—Darey, Lafleur (prize), Keays, Bull. *Class II.*—Molson, Roberts, Bayne, Ogilvie, Pillsbury;—Raynes and Scriver, equal;—Craig;—Klock and Lariviére, equal;—Cunningham.

Class III.—McIntyre, Muir, Allen.

SECOND YEAR.—*Class I.*—Falconer, Gregor, McLeod (Arch.), Jones, Lyman, Tucker, Weeks, Elder, Ferguson. *Class II.*—Powell, Gowanloch;—Black and Bracq and McDonald and Macpherson, equal. *Class III.*—Robertson;—McLeod (Alvan) and Rutherford and Weir, equal;—Ami (Hy. M.), White, Lawford.

FIRST YEAR.—*Class I.*—Fry, Hague, Lafleur (H. A.), Rielle, Whillans. *Class II.*—Morin, Richardson (Js. S.), Fraser, Smith, Belcher, Cockfield; Stirling and McKillop, equal;—Trenholme, Martin. *Class III.*—Shirriff and Thomas, equal;—Clipsham and Macrae, equal;—Stewart, Fuller, Barron.

GREEK AND ROMAN HISTORY.

FIRST YEAR.—*Class I.*—Fry and Hague (Hy.), (prizes) equal;—Lafleur (Hy. A.);—Rielle and Thomas, equal;—Trenholme and Martin, equal. *Class II.*—Fraser;—Clipsham and Whillans, equal. *Class III.*—Morin;—Smith and Richardson (Jas. S. S.), equal;—Fuller and Stirling, equal;—Barber and Belcher and Cockfield and Macrae, equal;—McKillop, Hitchcock.

LOGIC, AND MENTAL AND MORAL PHILOSOPHY.

B. A. ORDINARY.—(*Mental and Moral Philosophy*)—*Class I.*—Cross. *Class II.*—Lane. *Class III.*—McKibbin.

OCCASIONAL STUDENTS IN FOURTH YEAR.—(*Mental Philosophy*)—*Class I.*—Bowers. *Class II.*—Mitchell, Ford. *Class III.*—Mallory, Balmer.

THIRD YEAR.—(*Moral Philosophy*)—*Class I.*—Keays ;—Bull and Cunningham equal ; — Lafleur, Darey. *Class II.*— Craig ;—Bayne and Currie, equal ;—Allen, Roberts, Larivière ;—* Morrison and Pillsbury, equal ;—* Henderson, * Saer, Molson. *Class III.*—Raynes, Ogilvie, McIntyre; Klock, Muir.
Scriver, *aeger*.

PRIZE IN MENTAL AND MORAL PHILOSOPHY :—Bull and Cunningham, equal.

SECOND YEAR.— (*Logic*)—*Class I.*—Falconer (prize) ;—Ferguson, Weeks ;—Robertson and Tucker, equal;—Elder;—* Bowers and Powell, equal;—* Ford; Gowanloch and McLeod (Arch.), equal. *Class II.*—Ami (H.M.) and * Bareham, equal ;—Bracq;—Gamble and White, equal;—Lyman, —McDonald and Rutherford, equal ;—McLeod (Alvan), Jones.
Class III.—Macpherson and Scott, equal;—Lawford, McNabb ;—Black and * Thicke and Weir, equal.

* Occasional Students.

ENGLISH LITERATURE.

B. A. ORDINARY.—*Class I.*—Lighthall and Wood, equal ;—Lane and Redpath, equal.

THIRD YEAR.—(*Rhetoric*)—*Class I.*—Currie (prize) ;—Raynes.
Class II.—Lafleur, Craig, Roberts, Bull, Darey. *Class III.*—Molson and Pillsbury, equal ;—Klock ;—Ogilvie and Scriver, equal ;—Muir.

SECOND YEAR.—*Class I.*—Weir (prize) and Gregor (prize) and Falconer (prize), equal ;—Ferguson, Jones, Tucker, Elder. *Class II.*—Gowanloch ;—Black and Rutherford, equal ; — Robertson ;—Lyman and Powell, equal ;—Macpherson, Weeks ;—Bracq and McLeod (Archibald) and McNabb, equal;—McLeod (Alvan), Gamble, Scott, White, Lawford.
Class III.—Ami (H. M.). McDonald.

FIRST YEAR.—*Class I.*—Lafleur (prize) ;—Rielle and Hague (H. J.), equal.
Class II.—Trenholme, Fry, Thomas, Currie, Martin, Belcher, Smith, Clipsham, Cockfield, Whillans, Fuller, Stirling ; Morin and Richardson (J. S. S.), equal ;—Barron and Fraser and Macrae, equal. *Class III.*—Baker and Richardson (A.), equal ; McKillop, Chaffee ; — Shirriff and Stewart, equal ;— Hitchcock, Westlake.

HISTORY.

B. A. ORDINARY.—*Class I.*—Lighthall, Wood, Mercer, Redpath. *Class II.*—Lane.

FRENCH.

THIRD YEAR.—*Class I.*—None. *Class II.*—Internoscia. *Class III.*—Klock.

SECOND YEAR.—*Class I.*—Tucker (prize), Bracq, Gregor, Falconer and Weeks, equal. *Class II.*—Ami (H.), Jones, McLeod, Ferguson, Elder and Lyman, and Macpherson, equal. *Class III.*—White, Rutherford, Weir, Scott.

FIRST YEAR.—*Class I.*—Lafleur and Morin, equal, (prize); —Hague and Rielle, equal; —Fry, Richardson (Js.). *Class II.*—Trenholme, Barron, Smith. *Class III.*—Martin, Stirling, Cockfield; —Fraser and Thomas, equal; —Belcher, Richardson (A.).

GERMAN.

B. A. ORDINARY.—*Class I.*—Mercer.

Junior Division.—*Class I.*—Stevens.

SECOND YEAR.—*Senior Division:*—*Class I.*—Falconer (prize), Lyman.

Class II.—Jones. *Class III.*—None.

Junior Division.—*Class I.*—McLeod (Arch.), Ami (H. M.).

FIRST YEAR.—*Class I.*—Martin (prize), Lafleur (H. A.), Rielle. *Class II.*—None. *Class III.*—McKillop.

HEBREW.

Stewart Prize:—John Matheson, B. A.

SENIOR CLASS.—*Class I.*—Robertson (prize); —McLeod and Powell, equal; —Gowanloch, Bowers; —Mallory and McNabb, equal; —Gamble. *Class II.*—Orme, Black, Ford, Geddes. *Class III.*—McFarland.

JUNIOR CLASS.—*Class I.*—Whillans (prize), Internoscia, Morrison, Clipsham. *Class II.*—Westlake, Currie. *Class III.*—Stewart, Shipperley.

MATHEMATICAL PHYSICS.

B. A. ORDINARY.—*Class I.*—McClure, Stevens. *Class II.*—Lane and Redpath, equal; —Wood. *Class III.*—Eadie, Howard, McKibbin.

THIRD YEAR.—*Class I.*—Darey, Currie, Bull. *Class II.*—Molson, Cunningham. *Class III.*—Pillsbury, Keays, Roberts, Allen, Lafleur, McIntyre, Ogilvie, Raynes, Bayne, Larivière, Klock, Muir, Craig. Scriver, *aeger*.

MATHEMATICS.

SECOND YEAR.—*Class I.*—Falconer, Weeks, Tucker, Jones, Gregor, McLeod (Arch.), Ferguson, Ami (Henry M.). *Class II.*—Robertson, Powell, Gowanloch, Bracq, McLeod (Alvan). *Class III.*—White, Rutherford, McNabb, McDonald, Macpherson, Elder, Gamble, Lawford, Black, Lyman, Weir.

FIRST YEAR.—*Class I.*—Fry, McKillop, Fraser, Rielle, Whillans, Hague (H. J.). *Class II.*—Morin, Trenholme. *Class III.*—Lafleur and Stewart, equal; —Martin, Smith, Barron, Thomas, Stirling, Richardson, (J. S. S.), Currie (W. T.), Barber, Richardson (A. W.), Cockfield, Clipsham.

EXPERIMENTAL PHYSICS.

B. A. ORDINARY.—*Class I.*—McClure and Stevens, equal;—Lighthall, Cross, Wood, Redpath. *Class II.*—McConnell. *Class III.*—None.

THIRD YEAR.—*Class I.*—Darey, Bull;—Lafleur and Pillsbury equal;—Currie, Keays. *Class II.*—Roberts, Molson. *Class III.*—Ogilvie, Raynes, Craig;—Klock and Muir, equal.

Honour Examinations in Mathematics and Natural Philosophy.

B. A. HONOURS.—*First Rank.*—McClure Wm. *Anne Molson Gold Medal.*

SECOND YEAR.—(*Mathematics*).—*First Rank.*—Weeks (*Prize*).

FIRST YEAR.—(*Mathematics*).—*First Rank.*—None. *Second Rank.*—McKillop (*Prize.*)

NATURAL SCIENCE.

B. A. ORDINARY.—(*Geology and Mineralogy*)—*Class I.*—Howard, McConnell, Stevens. *Class II.*—Mercer. *Class III.*—Mitchell, McKibbin; Geddes (in Geology alone); Morkill (in Mineralogy alone).

B.A. HONOURS.—R. J. B. Howard and R. G. McConnell, *First Rank Honours.*

THIRD YEAR.—(*Zoology*)—*Class I.*—Roberts (Prize); Darey and Molson, (equal 2nd prize);—Currie, Lafleur, Ogilvie, Cunningham. *Class II.*—Pillsbury, Klock, Craig, Scriver, Muir, Larivière. *Class III.*—Bayne, Allen, McIntyre, McFarland.

THIRD YEAR HONOURS.—C. A. Molson, *First Rank.* A. Ogilvie, *Second Rank.*

SECOND YEAR.—(*Botany*)—*Class I.*—Ami and Falconer (equal, prize), Robertson, Gowanloch, Elder. *Class II.*—Jones;—Scott and Tucker, equal;—Ferguson, Lyman, Rutherford, White, Powell, Weeks, Macpherson, McLeod (Arch.), Gamble, McNabb, Weir, Bracq. *Class III.*—McLeod (Alvan), McDonald, Lawford, Black.

CHEMISTRY.

FIRST YEAR.—*Class I.*—Fry (prize), Hague (H. J.). *Class II.*—Smith, Trenholme, Lafleur, Barron. *Class III.*—Whillans, Rielle, Clipsham, Martin, Stirling, Stewart, Morin, McKillop, *Currie, *Fuller, Shirriff, Thomas, Fraser, Richardson (J. S.), Barber, Westlake, Richardson, (A. W.).

* Occasional Students.

METEOROLOGY.

Class I.—McClure; Stevens. *Class II.*—Nelson.
Class III.—(None).

MORRIN COLLEGE.

INTERMEDIATE EXAMINATION.

GREEK.—*Class I.*—Duclos.
LATIN.—*Class I.*—Duclos.
MATHEMATICS.—*Class I.*—Duclos.
LOGIC.—*Class I.*—Duclos.

ENGLISH LITERATURE,—*Class I.*—Duclos.
FRENCH.—*Class I.*—Duclos. *Class II.*—None. *Class III.*—None.

ST. FRANCIS COLLEGE.

INTERMEDIATE EXAMINATION.

GREEK.—*Class I.*—None. *Class II.*—Pritchard, Ramsay.
LATIN.—*Class I.*—None. *Class II.*—Pritchard. *Class III.*—Ramsay.
MATHEMATICS.—*Class I.*—None. *Class II.*—Pritchard. *Class III.*—Ramsay.
LOGIC.—*Class I.*—None *Class II.*—Pritchard. *Class III.*—Ramsay.
ENGLISH LITERATURE.—*Class I.*—None. *Class II.*—Pritchard, Ramsay.
FRENCH.—*Class I.*—None. *Class II.*—None. *Class III.*—Ramsay.
HEBREW.—*Class I.*—None. *Class II.*—Pritchard.

SUPPLEMENTAL EXAMINATIONS, 1878-9.

PASSED.

I.—September, 1878.

(*a*)—Supplemental Sessional Examinations.

THIRD YEAR.—Mercer.
SECOND YEAR.—Klock.
FIRST YEAR.—Black, Hay, Gamble, Lawford, White.

(*b*)—Supplemental in one Subject.

THIRD YEAR.—Lane.
SECOND YEAR.—Allen, McIntyre.
FIRST YEAR.—Rogers, Weir.

II.—February, 1879.

(Supplemental to Christmas Examinations.)

(*a*)—Supplemental in two or more subjects.

FOURTH YEAR.—Mercer.
THIRD YEAR.—Klock.
SECOND YEAR.—Lawford, McLeod (Alvan), Scott.
FIRST YEAR.—Barber, Richardson (A.W.), Shiriff, Stirling.

FACULTY OF APPLIED SCIENCE.

THIRD YEAR.

JOHN S. O'DWYER.—*Scott Exhibition for Session* 1878-9.

WM. W. H. SMITH.—Prize for Technical Subjects and Mathematics.

JOHN S.O'DWYER.—Second Rank Honours in Natural Science. Prize for Technical Subjects.

PASSED THE SESSIONAL EXAMINATION.

Civil Engineering.

O'Dwyer, Skaife, Dudderidge.

Mechanical Engineering.

Smith.

Mining Engineering.

Robertson.

SECOND YEAR.

THOS. DRUMMOND.—Special Prize in Sanitary Engineering.

PASSED THE SESSIONAL EXAMINATIONS.

Archbald, Drummond, Richard, Busteed, Bolton, Collins.

FIRST YEAR.

THOMAS D. GREEN.—Prize for Mathematics and Chemistry.

PASSED THE SESSIONAL EXAMINATIONS.

Green, Low, Stephen, Waddell, Foster, Burland, Gnædinger.

AGGREGATE CLASS LIST (PROFESSIONAL SUBJECTS.)

CIVIL ENGINEERING.

THIRD YEAR.—*Class I.*—O'Dwyer. *Class II.*—Skaife (W.).
Class III.—Dudderidge.

SECOND YEAR.—*Class I.*—Drummond. *Class II.*—Busteed and Richard, equal;—Archbald, Waddell. *Class III.*—Bolton, Collins.

MECHANICAL ENGINEERING.

THIRD YEAR.—*Class I.*—Smith (Wm. H. C.). *Class II.*—None. *Class III.*—None.

MINING ENGINEERING.

THIRD YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Robertson.

STANDING IN SPECIAL SUBJECTS.

DESCRIPTIVE GEOMETRY.

(*Civil and Mechanical Engineering,*)

THIRD YEAR.—*Class I.*—Smith. *Class II.*—Dudderidge, Skaife, O'Dwyer.
Class III.—None.

(*Mining Engineering,*)

Class I.—None. *Class II.*—Robertson. *Class III.*—None.

SECOND YEAR.—*Class I.*—Richard. *Class II.*—Collins. *Class III.*—Busteed and Drummond, equal;—Bolton, Archbald, Waddell.

FREEHAND DRAWING.

FIRST YEAR,—*Class I.*—Foster, Low and Waddell, equal;—Burland.
Class II.—Hague and Skaife. equal;—Green, Stephen.
Class III.—Gnædinger.

SURVEYING.

THIRD YEAR.—*Class I.*—O'Dwyer. *Class II.*—Dudderidge and Skaife equal.
Class III.—None.

SECOND YEAR.—*Class I.*—Busteed, Drummond. *Class II.*—Archbald;—Collins and Richard, equal. *Class III.*—Morkill;—Bolton and Waddell, equal.

PRACTICAL ASTRONOMY.

THIRD YEAR.—*Class I.*—O'Dwyer. *Class II.*—Skaife. *Class III.*—Dudderidge.

MATERIALS.

THIRD YEAR.—*Class I.*—O'Dwyer and Skaife, equal;—Smith. *Class II.*—Dudderidge.

SECOND YEAR.—*Class I.*—Drummond, Busteed. *Class II.*—Waddell, Archbald;—Bolton and Collins, equal. *Class III.*—Richard.

APPLIED MECHANICS.

THIRD YEAR.—*Class I.*—O'Dwyer, Smith, (Wm. H. C.) *Class II.*—Skaife (W.).
Class III.—Robertson, Dudderidge.

THE CONSTRUCTION OF WALLS AND DAMS FOR RETAINING WATER (*Essay*).

THIRD YEAR.—*Class I.*—Skaife (W.), O'Dwyer. *Class II.*—Dudderidge.
Class III.—None.

THE SECTIONAL FORMS OF SEWERS (*Essay*).

SECOND YEAR.—*Class I.*—Drummond, Waddell (R. W.). *Class II.*—Busteed Archbald, Bolton, Richard. *Class III.*—None.

SANITARY ENGINEERING.

THIRD YEAR.—*Class I.*—O'Dwyer, Skaife. *Class II.*—None.
Class III.—Dudderidge.

SECOND YEAR.—*Class I.*—Dummond. *Class II.*—Busteed, Archbald, Waddell (R. W.). Bolton. *Class III.*—Collins and Richard, equal;—Morkill.

GEOMETRY OF MACHINERY.

THIRD YEAR.—*Class I.*—None. *Class II.*—Smith (Wm. H. C.).
Class III.—None.

SECOND YEAR.—*Class I.*—Drummond. *Class II.*—Archbald, Richard, Waddell, Busteed, Bolton. *Class III.*—Collins.

MECHANICAL WORK.

THIRD YEAR.—*Class I.*—Smith (Wm. H. C.). *Class II.*—None. *Class III.*—None.

SCREW-CUTTING (*Essay*).

THIRD YEAR.—*Class I.*—Smith (Wm. H. C.). *Class II.*—None. *Class III.*—None.

MATHEMATICS.

THIRD YEAR.—*Class I.*—Smith. *Class II.*—None. *Class III.*—O'Dwyer, Skaife.
SECOND YEAR.—*Class I.*—None. *Class II.*—Drummond, Bolton.
Class III.—Collins, Richard, Archbald, Busteed.
FIRST YEAR.—*Class I.*—Green. *Class II.*—Stephen, Low, Waddell, Burland.
Class III.—Foster, Gnædinger.

MATHEMATICAL PHYSICS.

THIRD YEAR.—*Class I.*—Smith. *Class II.*—O'Dwyer, Robertson.
Class III.—Skaife.
SECOND YEAR.—*Class I.*—None. *Class II.*—Archbald. *Class III.*—Drummond, Morkill, Collins.

EXPERIMENTAL PHYSICS.

THIRD YEAR.—*Class I.*—Robertson;—Smith.
Class II.—None. *Class III.*—Skaife, O'Dwyer, Dudderidge.
SECOND YEAR.—*Class I.*—Archbald, Morkill. *Class II.*—None.
Class III.—Busteed, Richard, Collins;—Bolton and Drummond, equal;—Waddell.

GEOLOGY.

THIRD YEAR.—*Class I.*—None. *Class II.*—O'Dwyer, Robertson.
Class III.—Skaife, Dudderidge.

ZOOLOGY.

SECOND YEAR.—*Class I.*—None. *Class II.*—Bolton, Busteed, Waddell.
Class III.—Drummond, Archbald, Collins, Morkill, Richard.

ANALYTICAL CHEMISTRY.

THIRD YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Robertson.

CHEMISTRY.

FIRST YEAR.—*Class I.*—Green, Low, Stephen. *Class II.*—Waddell.
Class III.—Drummond, Burland, Skaife, Hague (F), Foster.

ENGLISH.

FIRST YEAR.—*Class I.*—None. *Class II.*—Low, Hague (F), Green, Stephen, Waddell, Burland. *Class III.*—Foster, Skaife, Gnædinger.

FRENCH.

THIRD YEAR.—*Class I.*—Skaife (W). *Class II.*—O'Dwyer. *Class III.*—Smith (Wm. H. C).
SECOND YEAR.—*Class I.*—None. *Class II.*—Bolton. *Class III.*—Richard, Archbald.

GERMAN.

THIRD YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Dudderidge and Skaife, equal;—Robertson.
SECOND YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Busteed.
THIRD YEAR.—*Class I.*—None. *Class II.*—None. *Class III.*—Gnædinger.

School Certificates of the University.

ASSOCIATES IN ARTS.

1865.

Montgomery Jones.
John Ferguson.
Charles Cushing.
Robert H. Conroy.
Samuel Stevenson.
Wallace Clarke.
Frederick W. Evans.
Robert W. Forester.
Edward B. Greenshields.
Montgomerie Lewis.
George Joseph Bull.
Albert Murray.
Daniel McLachlin.

1866

Sidney Arthur Fisher.
Charles E. Porteous.
Will. W. Walkem.
Chas. G. Stewart.
Geoffrey W. Porteous.
Florence David.
Hew. D. Whitney.
George W. Torrance.
Robt. M. Esdaile.

1867.

Charles H. Ferry.
James Rodger.
Geoffrey W. Porteous.
Thomas C. Thomson.
Francis J. Shepherd.
Gerald Lloyd.

1868.

John Fraser Torrance.
Will. Osborne M. Cross.
Henry G. W. Badgley.
John B. Abbott.
John Gray Grant.
Thomas C. Hempsted.

1869.

Arthur F. Ritchie.
Simon J. Tunstall.
Charles R. Jones.
O'Hara Baynes.
Aaron. D. M. DeSola.
Charles Jas. Fleet.
John Thos. Caldwell.
James M. Mitchell.
John Kay.
James Green.

1870.

William Bell Dawson.
Archibald D. Taylor.
Hiram B. Stephens.
Henry W. Thomas.
Samuel Greenshields.
Sheringham A. Shepherd.
William McEachran.
David S. Robertson.

1875.

William D. Lighthall.
W. A. Farwell.
Robert T. B. Howard.
Charles A. Molson.

1876.

J. Herbert Darey.
Paul Theodore Lafleur.
Edwin Hudson Bisset.
Andrew G. Ross.
James R. Foster.
Frederick Mindon Cole.
William Dawson McGregor.
John Ewart.
J. Gordon Gibson.
Wilfred T. Skaife.
Charles J. Walker.

1877.

Alexander Falconer.
Thomas B. Macaulay.
Armand F. Teefy.
Mina Douglas.
M. Douglas.
M. Stuart Fraser.
William Martin.
Walter H. Snow.
Louisa McFee.

Margaret A. Mills.
Ida Papineau.
Walter E. Lyman.
Helen Macklen.
Jane Darling.
George Graham.
Murray A. Biggar.
Jessie Ross.
Eva Dawson.
Alice Cumming.
Kenneth R. Macpherson.
Walter H. Lancey.
Robert A. Wallace.
Alexander McGibbon.
Marietta Jones.
Frank Weir.
Nathaniel D. Drew.

1878.

Henri A. Lafleur.
Grace Darling.
Henry R. Fairclough.
Andrew Lawson.
William H. Boyle.
N. J. Rielle.
George Kapelle.
John B. Rose.
Lillian Martin.
Henry Cockfield.
Louisa Harrison.
David Young.
Lawrence C. Rose.
Bessie Radford.
Kate McKeand.
Maggie Stewart.
Maggie Campbell.
A. W. Martin.
Florence W. Bissett.
C. W. Trenholme.
Robert Sterling.
Maggie White.
Frederick E. Belcher.
Anna Baxter.
Minnie Greenshields.
Emma D. Meikle.
C. D. Godfrey.
Lawrence MacRae.
Neil McLennan.

1879.

James Charles Allan.
Charles Edward Bland.
George W. Hambley.
John C. Fields.
R. Norman Hudspeth.
Louisa McDonald.
Wyatt G. Johnston.
Robert Little.
Henry J. H. Petry.
Edward J. K. Noyes.
Edith Durdan.
Adolph Kraft.
Richard F. Morris.
William Morris.
Duncan D. McTaggart.
Archibald McK. McMechan.
Donald John Fraser.
John Coutts.
Thomas Crawford.
Jessie McConnell.
Devereux Emmet.
Alfred E. A. Barlow.
Elizabeth Smith.
Claude L. Wheeler.
Charles McP. Holt.
Maggie Osgood.
George S. Baker.
Arthur G. Weld.
William L. Murray.
Christina J. Galt.
George R. Mills.
Alexander Malcomson.
Thomas J. Tait.
Kenneth D. Young.
Albert W. Haldimand.

JUNIOR CERTIFICATES.

1875.

Charles F. Dawson.
William C. Norris.
William S. Kerry.
Frank D. Adams.

1876.

William R. Robertson.

1877.

Annie Cussack.
Lizzie Cox.
Ella Gardiner.
Elizabeth Monk.
Jessie Logan.
Alexander W. Richardson

1878.

George Ross.
David McKinnon.
Jane Wood.
Annie Troup.
Jennie Edgar.
Edwin W. Griffin.
Mary Troup.
Herbert R. Macaulay.

Jessie Stewart.
Alexander Ambrose.
Milton Vandewater.
Julie Somerville.
Maggie Osgood.
Fritz G. Gnaedinger.
Robert A. Elliott.
Dora Scott.
Frederick F. Kingston.
William H. Adams.

1879.

Margaret McCoy.
Ina Sutherland.
Hattie Dalley.
Grace Darling.
Margaret Wilson.
Augusta Pedersen.
George Corey Thomson.
Georgina Iles.
Mary Mitchell.
Arthur Mercer.

STANDING IN THE EXAMINATIONS, 1879.

ASSOCIATES IN ARTS.

James Charles Allan, (High School, Montreal),	1157	Marks.
Charles Edward Bland, (High School, Montreal),	1140	"
George W. Hambley, (Coll. Inst., Hamilton),	1012	"
John C. Fields, (Coll. Inst., Hamilton),	920	"
R. Norman Hudspeth, (Coll. Inst., Hamilton),	915	"
Louisa McDonald, (Coll. Inst,, Hamilton),	859	"
Wyatt G. Johnston, (Bishop's Coll. School, Lennoxville),	851	"
Robert Little, (Coll. Inst., Hamilton),	846	"
Henry J. H. Petry, (Bishop's Coll. School, Lennoxville),	843	"
Edward J. K. Noyes, (High School, Montreal),	829	"
Edith Durdan, (Coll. Inst., Hamilton),	813	"
Adolph Kraft, (Coll. Inst., Hamilton),	796	"
Richard F. Morris, (Bishop's Coll. School, Lennoxville),	785	"
William Morris, (Bishop's Coll. School, Lennoxville),	784	"
Duncan D. McTaggart, (High School, Montreal),	764	"
Archibald McK. McMechan, (Coll. Inst., Hamilton),	763	"
Donald John Fraser, (High School, Montreal),	746	"
John Coutts, (Coll. Inst., Hamilton),	738	"
Thomas Crawford, (Coll. Inst., Hamilton),	734	"
Jessie McConnell, (Lachute Coll.),	723	"
Devereux Emmet, (Bishop's Coll. School, Lennoxville),	688	"
Alfred E. A. Barlow, (High School, Montreal),	682	"
Elizabeth Smith, (Coll. Inst., Hamilton)	678	"
Claude L. Wheeler, (High School, Montreal),	676	"
Charles McP. Holt (Bishop's Coll. School, Lennoxville),	654	"
Maggie Osgood, (Girl's High School, Montreal),	644	"
George S. Baker, (Dunham Academy),	630	"
Arthur G. Weld, (Bishop's College School, Lennoxville),	616	"
William L. Murray, (High School, Montreal),	611	"

Christina J. Galt, (Girl's High School, Montreal),	597	Marks.
George R. Mills, (Dunham Academy),	593	"
Alexander Malcomson, (Coll. Inst., Hamilton),	590	"
Thomas J. Tait, (High School, Montreal),	515	"
Kenneth D. Young, (High School, Montreal),	430	"
Albert W. Haldimand, (High School, Montreal .	418	"

JUNIOR CERTIFICATES.

Margaret McCoy, (Coll. Inst., Hamilton),	715	Marks.
Ina Sutherland, (Coll. Inst., Hamilton),	685	"
Hattie Dalley, (Coll. Inst., Hamilton),	627	"
Grace Darling, (Senior School, Montreal),	571	"
Margaret Wilson, (Senior School, Montreal),	496	"
Augusta Pedersen, (Senior School, Montreal),	492	"
George Corey Thomson, (Coll. Inst., Hamilton),	480	"
Georgina Iles, Senior School, Montreal),	461	"
Mary Mitchell, (Senior School, Montreal),	425	"
Arthur Mercer, (Berthier Grammar School.)	381	"

STANDING IN THE SEVERAL SUBJECTS.

PRELIMINARY SUBJECTS.

READING.	DICTATION.	GRAMMAR.	ARITHMETIC	GEOGRAPHY.
Darling, Hambley, Osgood, Sutherland — æq.	Allan, Baker, Bland — æq.	Durdan	Durdan	Hudspeth
Baker, Bland, Little, McMechan, Mills, Short, Morris W, Weld — æq.	Morris R, Weld	Coutts, Wheeler — æq.	Fields	Allan, Kraft — æq.
Galt, Johnston, McConnell, McDonald, Mitchell, Petry — æq	Darling, Johnston, Hudspeth, McDonald — æq.	Dalley, Fields, Hudspeth, Kraft, Little — æq.	Bland, Sutherland — æq.	Emmet, Osgood — æq.
Allan, Burrell, Emmet, Fraser, Hudspeth, Iles, McCoy, Murray, Pedersen, Smith E, Tait, Taylor, Wheeler, Wilson — æq.	Pedersen, Sutherland, Wilson	Allan, Bland, Crawford, Hambley, Malcomson, McMechan, Sutherland — æq.	Little, Hambley, Noyes, Malcomson, McCoy	Bland, Fields, McMechan, Petry, Noyes, Tait — æq.
Coutts, Fields, Holt — æq.	Campbell, Fields, McConnell, Morris W, Wheeler — æq.	Campbell, Darling, Fraser, Haldimand, Wilson — æq.	Darling, Fraser, Pedersen, McTaggart — æq.	Barlow, Little, Morris R. — æq.
Barlow, Campbell, Durdan, Earle, Garth, McTaggart, Haldimand, Morris C, Mercer, Reddy, Smith R, Young — æq.	Barlow, Hambley, Mitchell — æq.	Mills, McCoy, Short, Smith E, Weld, Young — æq.	Allan, Barlow, Johnston, Kraft — æq.	Galt, Garth, Johnston — æq.
Thomson	McMechan, Mills, Short — æq.	Baker, Barlow, Johnston, Petry, Tait, Thompson — æq.	Short, Smith E. — æq.	Campbell, Hambley, Smith. E. Sutherland, Weld — æq.
Crawford, Dalley, Kraft, Malcomson, Noyes — æq.	Durdan, Iles, Smith E. Thomson, Holt — æq.	Burrell, McDonald, Mercer, Mitchell, Noyes — æq.	Baker, Hudspeth — æq.	Coutts, Holt, McDonald, Murray, Reddy — æq.
Mitchell, Pedersen — æq.	Fraser, Little, Osgood — æq.	Emmett, Holt, McTaggart, Morris R. — æq.	McDonald	Haldimand, Mills, Morris W. Wheeler — æq.
Morris R	Coutts, Mercer, Petry — æq.	Osgood	Coutts, Morris W — æq.	Baker, Morris C. Taylor, Wilson — æq.
	Galt, Murray — æq.	Galt	Crawford, Galt	McCoy, McTaggart, Mercer, Smith E. Thomson — æq.
	Crawford, McCoy — æq.	Pedersen, Reddy — æq.	Burrell, Wheeler — æq.	Burrell, Crawford, Dalley, Darling, Durdan, Earle — æq.
	Taylor	McConnell, Morris C. Morris W. — æq.	Smith	Malcomson
	Haldimand, Malcomson — æq.	Iles, Taylor — æq.	Mercer, Osgood — æq.	Fraser, McConnell — æq.
	Young, Burrell, Kraft, Emmet, Noyes	Murray, Smith R. — æq.	McConnell, Mitchell, Murray, McMechan, Petry — æq.	Pedersen, Young — æq.
	McTaggart, Reddy, Tait — æq.	Earle, Garth	Dalley, Iles, Tait — æq.	Iles, Short, Mitchell
	Dalley		Emmet, Mills — æq.	
			Morris C. Wilson, Morris R. Weld, Haldimand, Young	
			Holt, Taylor, Thomson — æq.	

PRELIMINARY SUBJECTS.

HISTORY

Allan
Emmet
Bland
Hambley
Sutherland
Fraser, Petry } æq.
McConnell, Osgood, Tait } æq.
Morris W., Galt } æq.
McConnell
Baker
Barlow, Holt, Johnston, McCoy } æq.
Coutts, Crawford, McMechan, Mills } æq.
Kraft, Little, Malcomson, Smith E., Weld } æq.
Iles, Mercer, McTaggart, Morris R. } æq.
Fields, Dudspeth, Noyes, Smith R. } æq.
Darling, Wilson, Young } æq.
Morris C., Taylor, Thomson } æq.
Dalley, Durdan, Murray } æq.
Short, Wheeler } æq.
Haldimand
Mitchell
Pedersen

GOSPELS.

(*Passed with credit.*)

Allan
Baker
Bland
Coutts
Dalley
Darling
Durdan
Emmet
Fraser
Galt
Garth
Haldimand
Hambley
Iles
Johnston
Kraft
Malcomson
McCoy
McDonald
McConnell
McMechan
Mercer
Mills
Mitchell
Morris C.
Morris R.
Morris W.
Noyes
Osgood
Pedersen
Petry
Reddy
Smith
Sutherland
Taylor
Wheeler
Young

OPTIONAL SUBJECTS.

LATIN.

*Allan
*Hambley
*Bland
*Coutts
*Durdan
*Petry
*Hudspeth
*Morris R.
*Mills, *Little, *Crawford } æq.
*McMechan
*Fields, *Johnston, *Kraft } æq.
*Baker
*Morris W.
*Galt
*Fraser
Weld
Campbell
Holt, Morris C. } æq.
Malcomson, Young } æq.
Emmet, Thomson } æq.
Tait
Wheeler
Barlow
Mercer
Haldimand, Taylor } æq.
Reddy
Smith E.
Murray

GREEK.

*Hambley
*Allan
*Bland
*Morris R.
*Johnston
*Hudspeth
*Little
*Petry
*Fraser, *Morris W. } æq.
*Coutts
Crawford, McMechan } æq.
Weld
Emmet
Fields

FRENCH.

*McDonald
*Petry
*Durdan
*Bland, *Johnston, McConnell } æq.
Sutherland
*Allan
*Morris R.
*Young, *McMechan } æq.
Darling, *Morris W. } æq.
*Osgood, *Mills } æq.
Smith E., Dalley } æq.
Reddy
Haldimand
Pedersen, Baker } æq.
Barlow, Fraser } æq.
Malcomson
Holt
Campbell, Taylor, Wheeler, Tait } æq.
Galt
Morris C.
Murray
McTaggart
Mitchell
Hudspeth
Wilson
Noyes

GERMAN.

*McDonald
*Osgood
McCoy
*Kraft
Pedersen
Iles
Holt

GEOMETRY.

*Bland, *McCoy } æq.
*Allan
*Hambley
*McTaggart
*Fields, *Johnston } æq.
*Kraft, *Wheeler } æq.
*McConnell, *McDonald } æq.
*Smith R.
*Hudspeth
*Durdan
Tait
*Dalley, *Little, *Murray } æq.
*Coutts, *Fraser } æq.
*Crawford
*Morris C.B.
*Galt
*Morris R., *Morris W., *Osgood } æq.
*Noyes
*Darling
*Petry, Young } æq.
*Baker
Garth
*Iles, *Wilson } æq.
*Barlow
*Malcomson
*Holt
Reddy
Burrell
Mills
Smith E., Sutherland, Thomson } æq.
Short
Emmet
Mitchell
McMechan
Campbell, Earle } æq.

* Creditable answering.

OPTIONAL SUBJECTS.

ALGEBRA

*Fields, *Hudspeth } æq
*Little
*Durdan, *Hambley, *Kraft, *McDonald, *Noyes } æq.
*Bland
*Smith E., *Dalley } æq.
*Baker
*Crawford, *Murray, *Osgood, *Smith R., *Wilson } æq.
*McTaggart, *Sutherland } æq.
*Wheeler
*McConnell, *McMechan, *Thompson } æq.
*Allan
*McCoy, *Mills } æq.
*Morris W.
*Coutts, *Darling, *Holt, *Malcomson, Pedersen } æq.
*Iles
*Barlow
Burrell, Short, Weld } æq.
Galt, Petry } æq
Mitchell
Fraser
Morris R.F
Haldimand, Johnston, Reddy } æq.
Emmet, Morris C.B. } æq
Garth, Mercer } æq.

TRIGONOMETRY.

*Fields
*Noyes
*McTaggart
*Smith R.
McConnell
Osgood

NAT. PHIL.

Hudspeth

DRAWING.

Emmet
Weld
Petry

BOTANY.

*McConnell
Darling, Pedersen } æq.
Burrell
Mills, Mitchell } æq.
Baker
Short
Iles
Wilson

CHEMISTRY.

Hudspeth
Noyes
McTaggart
Smith R.

ENGLISH LANGUAGE.

*Allan
*Bland
*Hambley
*McDonald
*McMechan
*Little
*Noyes
*Durdan
*Sutherland
*McCoy
*Dalley
*Fields
Johnston
Crawford, Kraft } æq.
Emmet, Fraser } æq.
Morris R.
Smith E.
Petry
Weld
Morris C.
Campbell, Coutts } æq.
Holt
Barlow
McTaggart, Morris W. } æq.
Murray
Wheeler
Reddy
Thomson

GENERAL HISTORY.

*Allan
Osgood
Noyes
Bland
Barlow
Petry
Weld
Fraser
Holt
Emmet, Morris W. } æq.
Johnston
Morris R.
McTaggart
Mercer
Garth, Wheeler } æq.

ENGLISH LITERATURE.

*Bland
*Allan
*McDonald
*Osgood, *McMechan, *Taylor } æq.
*Hambley, *McCoy } æq.
*Noyes
*Petry
*Holt
*Fields
*Kraft, *Smith E. } æq.
Tait
Emmet
Barlow, Fraser, McTaggart } æq.
Coutts, McConnell } æq.
Malcomson
Crawford
Earle
Mercer
Garth
Morris C.
Hudspeth, Wheeler } æq.
Reddy, Campbell, Weld } æq.
Dalley, Galt } æq.
Durdan, Johnston } æq.
Murray
Haldimand
Sutherland, Little, Morris R., Morris W. } æq.
Smith R.

GEOGRAPHY.

*Allan
*Fields
*Bland, *Sutherland } æq.
*Emmet, *Hambley } æq.
*Noyes
*Little
*Dalley, *Johnston } æq.
McTaggart, Morris R. } æq.
McMechan, Morris W., Smith E. } æq.
Barlow, Garth } æq.
Coutts, Kraft } æq.
Galt, McDonald, Morris C. } æq.
Hudspeth
Haldimand, Petry, Tait } æq.
Crawford, Murray, Smith R. } æq.
Durdan
Campbell, McConnell, Weld } æq.
Earle, Osgood } æq.
Thomson
Holt, Young } æq.
Reddy, Wheeler } æq.
Taylor

* Creditable answering.

LIST OF THE PRINCIPAL DONATIONS

TO THE

LIBRARY AND COLLECTIONS OF THE FACULTIES OF ARTS AND APPLIED SCIENCE.

FROM MAY, 1878, TO MAY, 1879.

1.—TO THE LIBRARY.

Institution of Civil Engineers, London:.....Minutes of Proceedings, Vol. LI. 8vo.

H. W. Acland, Esq., M.D., F.R.S.....Catalogue of Books added to the Radcliffe Library, Oxford, University Museum, in 1877 and 1878. 2 pam. 4to.

American Philosophical Society Philadelphia....Proceedings. No. 100 of vol. XVII. 8vo. pap.

W. F. Warren, Esq., LL.D.....Boston University Year Book. 1878, pam. 8vo.

A. Agassiz, Esq., Cambridge, Mass.....Bulletin of the Museum of Comparative Zoology, Harvard College, Cambridge, Mass. No. 1 of vol. V. pam. 8vo.

Harbour Commissioners of Montreal.....Report of the Commission of Engineers on a General Scheme of Improvements for the Harbour of Montreal, 1877. 8vo.

Dr. F. V. Hayden, U. S. Geologist.....Bulletin of the U.S. Geological and Geographical Survey of the Territories. Vol. III. Nos. 2-4 (Two copies of Nos. 2 and 3, and No. 6,) (Second Series, 1876). 6 pam. 8vo.

do do do .....Bulletin of the U.S. Entomological Commission, Nos. 1 and 2, 1877. 2 pam. 8vo.

do do do .....Bulletin of the U.S. National Museum. No. 8, 1877, pam. 8vo.

do do do .....Lists of Elevations. No. 1, pam. 8vo. 2 Copies.

V. H. Winchell, Esq., U.S. Geologist.....The Geological and Natural History Survey of Minnesota, Annual Report for 1873, 1875 and 1876. 3 pam. 8vo.

do do do .....Bulletin of the Minnesota Academy of Natural Sciences, for 1876. pam. 8vc.

Medical Faculty, McGill University .....68 Vols. comprising works on classical, philosophical and scientific subjects.

C. Chamberlin, Esq., U.S. Geologist.....Geology of Wisconsin, Survey of 1873-1877. Vol. II. roy. 8vo.

J. Stevenson, Esq., U.S. Geologist.....Report of Progress of the Second Geol. Survey of Pennsylvania in the Fayette and Westmoreland Districts: 1876. 8vo, pap.

H. Cook, Esq., U.S. Geologist.....Geological Survey of New Jersey, Report on Clay Deposits, 1878. 8vo.

Dr. F. V. Hayden, U.S. Geologist .....Geological and Geographical Atlas of Colorado and Portions of adjacent Territory, 1877. (Twenty large sheets.)

James Hall, Esq.....Illustrations of Devonian Fossils: Corals, 1878. 4to.

G. Wicksteed, Esq., Q.C.....Waifs in Verse. 8vo.

Government of the Province of Quebec.....Statuts de Québec, 1878. 8vo.

Clarence King, Esq., U.S. Geologist.....Geological and Topographical Atlas accompanying the Report of the Geological Exploration of the 40th Parallel. Large fol.

His Excellency the Governor General of Canada. London University Calendar for 1878. 8vo

Cornell University..... The Ten Year Book of Cornell University, 1868-1878. 8vo.

J. D. Putnam, Esq..... Proceedings of the Davenport Academy of Natural Science, Jan., 7 1876, to June 1877. pam. 8vo.

A. R. C. Selwyn, Esq., F.R.S..... Report of Progress of the Geological Survey of Canada for 1876-77. pam. 8vo.

Government of the Province of Quebec..... Statutes of Quebec, Session 1878. 8vo.

W. J. Patterson, Esq..... Home and Foreign Trade of Canada, and Annual Report of the Commerce of Montreal for 1877. pam. 8vo.

Government of Washington..... Annual Report of the Chief Signal Officer to the Secretary of War, for the year 1877. 8vo.

Government of the Dominion of Canada .... Sessional Papers, Nos. 4, 5 and 7 to vol. XI. 3 vols. 8vo.

do do do ..... Statutes of Canada, 1878, English and French. 2 vols. 8vo.

do do do ..... Journals of the House of Commons. Vol. XII. 8vo.

Government of the State of New Hampshire, U.S. Geology of New Hampshire, 4to. with Atlas. fol.

Government of France..... Collection de Dessins, Ecole de Ponts et Chassées. Tome I (11 Parts), fol.

do do ..... Légendes Explicatives des Planches. Vols. 1 and 2 (Parts 1-14). 8vo.

do do ..... Notices sur les Modèles, Cartes et Dessins relatifs aux Travaux des Ponts et Chaussées. 8vo.

Government of the Dominion of Canada..... Sessional Papers, Nos. 2, 3, 6 of vol. XI. 3 vols. 8vo.

do do do ..... Journals of the Senate of Canada, 1878. Vol. XII. 8vo.

Government of the State of Pennsylvania ... Report of Progress of the Second Geological Survey of Pennsylvania, 1875-7. 3 vols. 8vo.

Dr. J. A. MacKay..... Hill's British Herbal. fol.

Trustees of the British Museum, London, Eng.. Catalogue of Chiroptera. 8vo.

do do do .... Guide to the Exhibition Rooms of the Departments of Natural History and Antiquities. pam. 8vo.

Superintendent of Meteorological Service, Toronto..... Report of the Meteorological Service of the Dominion of Canada. 8vo. pap.

Society of Engineers, London, Eng..... Transactions for 1863, and 1865-67. 14 vols. 8vo.

W. G. Beers, Esq., L.D.S..... Catlin's North American Indian Portfolio, Large fol.

Prof. C. E. Moyse, B.A..... Morley's Tables of English Literature. 3 Parts, Large 4to.

Government of the Dominion of Canada..... Sessional Papers, Nos. 1, 8-11 to vol. XI. 1878. 5 vols. 8vo.

Government of the Province of Quebec ..... Statutes of Quebec, 1878. 2 vols. 8vo.

do do do ..... Journals of the Legislative Council, 1877-78. Vols. XI. and XII. 8vo.

do do do ..... Journals of the Legislative Assembly, 1877-78. Vol. XI. and XII. 8vo.

do do do ..... Sessional Papers, 1 to 30, 1876. Vol. X. 8vo.

Prof. H. T. Bovey, M.A..... Allan's Illustrated Catalogue of Cast Iron Manufactures. 4to.

Prof. A. Hall, Washington, U.S..... Hall's Observations and Orbits of the Satellites of Mars. pam. 4to.

Alexander Agassiz, Esq..... Annual Report of the Curator of the Museum of Comparative Zoology at Harvard College for 1877-78. pam. 8vo.

N. Winchell, Esq., U.S. Geologist..... Report of the Geological and Natural History Survey of Minnesota for 1877. 8vo.

Chief of Engineers, U.S. Army..... Humphreys & Abbott, Report on the Mississippi River, 1861. 8vo.

do do	Simpson's Explorations across the Great Basin of Utah in 1859. 4to.
do do	Ludlow's Report of a Reconnaissance from Carroll, Montana Ty., to the Yellowstone National Park, in 1875. 4to.
do do	Barnard's Report on the North Sea Canal of Holland. 4to.
do do	Ludlow's Black Hills of Dakota. 4to.
do do	Newberry's Report of the Exploring Expedition from Santa Fé, &c., to Junction of Grand and Green Rivers; 1859. 4to.
do do	Williamson, on the use of the Barometer on Surveys, &c. 4to. pap.
do do	Williamson's Practical Tables in Meteorology and Hypsometry. 4to. pap.
do do	Reports and other Scientific Papers. 5 pam. 8vo.
do do	Annual Report for the Year 1877. Parts 1 anp 2. 8vo.
Royal Society of London	Philosophical Transactions for the years 1877 and 1878. Part II. to vol. 167, and Part I. to vol. 168. 2 vols. 4to.
do do	List of Fellows of the Royal Society, 30th November, 1877. pam. 4to.
do do	Proceedings, Nos. 184-189. From November 15, 1877, to June 20, 1878. 6 pam. 8vo.
Chevalier Huguet-Latour	Annuaire de Ville-Marie. 4 pam. 8vo.
Clarence King, Esq., U.S. Geologist	U.S. Geological Exploration of the Fortieth Parallel, I. Systematic Geology. Large 4to.
McGill College Book Club	167 Vols. comprising recent publications on various subjects.
Liverpool Polytechnic Society	Journal of the Liverpool Polytechnic Society. 8 pam. 8vo.
do do	Annual Report, 1878. With list of Members, 1879. pam. 8vo.
Royal Institute of British Architects	Transactions, 1878-79. Nos. 5-8. 4 pam. 4to.
McGill College Graduates' Society	Allibone's Dictionary of Authors. 3 vols. 4to.
do do	Earle's Philology of the English Tongue sm. 8vo.
do do	Bain, English Composition and Rhetoric. 8vo. Hales' Longer English Poems. sm. 8vo.
do do	Abbott's Shakespearian Grammar. sm. 8vo.
do do	Morris' Elementary Lessons in Historical English Grammar. 12mo. Pope's Satires and Epistles. 2 vols. 12mo.
do do	Epochs of English History, edited by the Rev. M. Creighton, Parts 1 and 2. 12mo.
do do	Huxley's Anatomy of Vertebrated Animals. 8vo.
Principal Dawson, LL.D	Rawson's Report on the Rainfall of Barbadoes. sm. fol. pap.
do do	Credner's Geognostische Karte der Umgegend von Hannover. 4to.
do do	Hind. The effect of the Fishery Clauses of the Treaty of Washington on the Fisheries of British North America. pam. fol.
A. R. C. Selwyn, Esq., F.R.S.	Handbook and Official Catalogue of the Canadian Section, Paris Universal Exhibition, 1878. English and French. 2 vols. 8vo. pap.
Government of Washington	U.S. Coast Survey. Report of the Superintendent for 1875. 4to.
Dr. F. V. Hayden, U.S. Geologist	U.S. Geological and Geographical Survey of Colorado and adjacent Territories, 1874-75-76, 3 vols. 8vo.

Boston Society of Natural History.....Proceedings. 1876-1878. Vol. XIX. 8vo.
University of Toronto.....Examination Papers for 1878. 8vo.
Principal Dawson, LL.D.....Dawson's Acadian Geology, 3rd edition. 8vo.
do do .....Meyen's Outlines of the Geography of Plants. 8vo
do do .....Darwin's Monograph of the Sub-class Cirripedia. 8vo.
do do .....Dabney's Sensualistic Philosophy of the Nineteenth Century. 8vo.
G. T. Kingston, Esq'.....Abstracts and Results of Magnetical and Meteorological Observations at the Magnetical Observatory, Toronto, 1841-1871. 8vo.
Ven. Archdeacon Leach, LL.D.....Restitution of Decayed Intelligence. 8vo.
do do .....Playfair's Decline and Fall of powerful and wealthy Nations. 4to.
do do .....Playfair's System of Chronology. fol.
Government of the State of Pennsylvania, U.S.....Second Geological Survey of Pennsylvania: 1874-'5-'6-'7-'8. Report of Progress. 6 vols. 8vo.
Am. Institute of Mining Engineers, Easton, Pa.Transactions. Vol. VI. 8vo.
University of New Zealand.....Canterbury College Calendar for the year 1879. pam. 8vo.
Peter Redpath, Esq .....Leggo's History of the Administration of the Earl of Dufferin in Canada. 8vo.
M. H. Gault, Esq., M.P.....Report of the Canadian Commissioner at the Exhibition of Industry, held at Sydney, New South Wales. pam. 8vo.
do do .....Report on the Meteorological Service of the Dominion of Canada for 1877. pam. 8vo.

II.—TO THE MUSEUM.

From W. C. Harris, Esq., Montreal.....Specimens of *Orthoceras* from Utica Shale Whitby, Ontario.
" Rev. Mr. Emberson, M.A.....Specimens of Mica and Pyroxeme.
" J. S. Miller, Esq., East Templeton, Q.....Various Mineral Specimens from Apatite veins.
" Mrs. Gilbert Jackson, Michigan.....Nest of Tarantula.
" Lieut. Col. Grant, Hamilton, Ont.....Specimens of Fossils from the Niagara Limestone.
" Prof. Bovey, M.A.....Specimens of Quartz, Blende and Iron Ore from Cornwall.
" Mr. J. S. Morkill.....Specimens of Asbestus from Shefford.
" J. Fraser Torrance, B.A.....Specimens of Ores from Colorado and Utah.
" Dr. Otto Hahu.....Mesozoic Fossils from Germany.
" Miss Lena Rawson, Poughkeepsie.....Specimen of Tourmaline in Quartz.
" Rev. Dr. Patterson, Pictou, N.S.....Skull of Miemac Indian.
" Mrs. Jack, Chateauguay Basin.....Ancient Indian weapon.
" W. C. Harris, Esq., Montreal.....Collection of Scottish Sea-weeds and several Geological Specimens.
" W. Fraser, Esq., Ipswich, England.....Collection of Crag Fossils, also of British Sea-weeds and Ferns.
" H. Bauerman, Esq., F.G.S. London.....4 Specimens Rocks of Mount Sinai.
" Dr. W. J. Innes, Victoria, Ont.....4 Specimens of Insects.
" Prof. Claypole, Antioch College, Ohio.....Cast of *Glyptodendron*.
" Prof. Bell, M.D.....Stone Lamp used by the Esquimaux.
" A. R. C. Selwyn, Esq., F.R.S. Director Geological Survey.....Specimens of *Graptolites* from the Quebec Group.
" Miss Rimmer, Montreal.....Collection of Geological Specimens from England.

Addenda.

THE MARQUIS OF LORNE'S MEDALS.

His Excellency the Governor General has been pleased to present to the University a Gold and a Silver Medal, which it is expected will be offered for competition in the Session of 1879-80.

The conditions of competition will be announced at the beginning of the Session.

AFFILIATED SCHOOLS.

The following are recognized as Affiliated Schools, under the Regulations p. 107 Supra.

Prince of Wales College, Charlottetown, P.E.I.
Collegiate Institute, Hamilton, Ontario.
Canadian Literary Institute, Woodstock, Ontario.
The High School of Montreal.
The Bishops' College School, Lennoxville, Q.
The Girls' High School, Montreal.
The Lachute College.
The Dunham Academy.

AMENDMENTS OF REGULATIONS FOR SCHOOL EXAMINATIONS.

1. To the regulation respecting "Candidates who fail," add the words "unless in the interval they have become disqualified by age, this disqualification not to apply in cases of illness duly certified by medical authority."

2. In the optional subjects, instead of "at least one-half," "*one-third* of the marks will in future be required."

3. In the Higher Examination of Women, candidates resident in Montreal, may take the lectures and examinations of the Ladies' Educational Association, as follows :—

(*a*) "Astronomy" instead of one of the Subjects in Experimental Physics.

(*b*) "English Literature" instead of "Chaucer."

(*c*) "Physical Geography" instead of "Geology and Palæontology."

ERRATA.

List of Governors, For Hon. W. F. Torrance, read Hon. Frederick W. Torrance.

List of Officers of Instruction, (3d name from end) for "Osborne Avenue" read "32 Lorne Avenue."

CONTENTS.

§ I. GENERAL ANNOUNCEMENTS :—

Benefactors
Calendar
Governing Body
Officers of Instruction
General Statement
} Page 1 to 16.

§ II. FACULTY OF ARTS :—

Admission ... 18
Apparatus (Philosophical) ... 45
Attendance ... 31
Boarding houses ... 31
Conduct ... 31
Course of Study ... 17
Degrees ... 25
Examinations ... 24
Exemptions from Fees ... 23
" in Course of Study ... 27-29
Exhibitions ... 20-22-47
Fees ... 38
Honours ... 27

LECTURES :—

" Ordinary ... 34-48
" Honour ... 38-42
Library ... 32
Matriculation ... 18
Medals ... 29
Museum ... 32-45
Prizes ... 29-30
Scholarships ... 20
Time Table ... 47

§ III. FACULTY OF APPLIED SCIENCE :—

Admission ... 50
Course of Study ... 53
Courses of Lectures ... 56
Degrees ... 54
Examinations ... 54
Exhibitions and Prizes ... 51
Fees ... 55
List of Models ... 63
Text Books ... 62
Time Table ... 66

§ IV. FACULTY OF MEDICINE :—

Admission 68
Courses of Lectures 70
Degrees 76
Examinations 78
Fees 78
Hospitals 83
Medals and Prizes 80
Medical Society 82
Museum and Library 82
Past Session 85
Qualifications for Degrees 76
Summer Session 90

§ V. FACULTY OF LAW :—

Admission 94–96
Course of Study 95
Degrees 98
Fees 98
Regulations 96

§ VI. UNIVERSITY SCHOOL EXAMINATIONS :—

For Associate in Arts and Junior Certificate 100
Higher Examination of Women 104

§ VII. EXTRACTS FROM REGULATIONS :—

Academical Dress 108
Affiliated Schools 107
University Meetings 109

§ VIII. McGILL NORMAL SCHOOL :—

Admission, &c 111
Course of Study 113
Model Schools 118
Regulations 117

§ IX. UNIVERSITY LISTS :—

Graduates 119
Students 133
Passed the University Examinations, 1878-9 139
Prizes, Honours and Standing, 1878-9 142
School Certificates 158
Donations to Library and Museum 165

EXAMINATION PAPERS

OF THE

McGILL UNIVERSITY,

MONTREAL.

SESSION OF 1878-79.

Montreal:
PRINTED BY LOVELL PRINTING AND PUBLISHING COMPANY,
ST. NICHOLAS STREET.
1879.

ORDER OF EXAMINATION PAPERS.

SCHOLARSHIP AND EXHIBITION EXAMINATIONS, 1878.

PAGE 5

CHRISTMAS EXAMINATIONS, 1878.

CLASSICS 37
MATHEMATICS AND NATURAL PHILOSOPHY 50
ENGLISH LANGUAGE AND LITERATURE 55
LOGIC AND MENTAL AND MORAL PHILOSOPHY 60
MODERN LANGUAGES (French and German) 62
HEBREW 73
NATURAL SCIENCES:—(Chemistry—Botany—Zoology—Mineralogy and Physical Geology) 75

SESSIONAL EXAMINATIONS, 1879.

CLASSICS:—
(1) *Ordinary* 78
(2) *Honour* 99

MATHEMATICS AND NATURAL PHILOSOPHY:—
(1) *Ordinary* 112
(2) *Honour* 128

ENGLISH LITERATURE:—
(1) *Ordinary* 135
(2) *Honour* 144

LOGIC AND MENTAL AND MORAL PHILOSOPHY:—
(1) *Ordinary* 155
(2) *Honour* 160

MODERN LANGUAGES:—
(1) *French* 167
(2) *German* 172

HEBREW AND CHALDEE 177

NATURAL SCIENCES AND CHEMISTRY:—(Botany—Zoology—Geology—Mineralogy—Lithology and Physical Geology—Geology and Palæontology):—
(1) *Ordinary* 181
(2) *Honour* 185

FACULTY OF APPLIED SCIENCE—PRACTICAL AND APPLIED SCIENCE:—(Civil Engineering — Mining—Surveying — Engineering—Assaying—Elementary Chemistry) 190

EXAMINATION PAPERS IN MEDICINE 230

EXAMINATION PAPERS IN LAW 239

EXAMINATIONS FOR SCHOOL CERTIFICATE 250

EXHIBITIONS AND SCHOLARSHIPS, 1878.

FIRST YEAR EXHIBITIONS.

GREEK.

TUESDAY, SEPTEMBER 17TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Demosthenes, Philippic I.:—

Ἴσως δὲ ταῦτα μὲν ὀρθῶς ἡγεῖσθε λέγεσθαι, τὸ δὲ τῶν χρημάτων, πόσα καὶ πόθεν ἔσται, μάλιστα ποθεῖτε ἀκοῦσαι. τοῦτο δὴ καὶ περαίνω. χρήματα τοίνυν, ἔστι μὲν ἡ τροφή, σιτηρέσιον μόνον τῇ δυνάμει ταύτῃ, τάλαντα ἐνενήκοντα καὶ μικρόν τι πρὸς, δέκα μὲν ναυσὶ ταχείαις τετταράκοντα τάλαντα· εἴκοσιν εἰς τὴν ναῦν μναῖ τοῦ μηνὸς ἑκάστου· στρατιώταις δὲ δισχιλίοις τοσαῦθ' ἕτερα, ἵνα δέκα τοῦ μηνὸς ὁ στρατιώτης δραχμὰς σιτηρέσιον λαμβάνῃ· τοῖς δ' ἱππεῦσι διακοσίοις οὖσιν, ἐὰν τριάκοντα δραχμὰς ἕκαστος λαμβάνῃ τοῦ μηνός, δώδεκα τάλαντα. εἰ δέ τις οἴεται μικρὰν ἀφορμὴν σιτηρέσιον τοῖς στρατευομένοις ὑπάρχειν, οὐκ ὀρθῶς ἐγνωκεν· ἐγὼ γὰρ οἶδα σαφῶς ὅτι, τοῦτ' ἂν γένηται, προσποριεῖ τὰ λοιπὰ αὐτὸ τὸ στράτευμα ἀπὸ τοῦ πολέμου, οὐδένα τῶν Ἑλλήνων ἀδικοῦν, οὐδὲ τῶν συμμάχων, ὥστ' ἔχειν μισθὸν ἐντελῆ. ἐγὼ συμπλέων ἐθελουτής, πάσχειν ὁτιοῦν ἕτοιμος, ἐὰν μὴ ταῦθ' οὕτως ἔχῃ. πόθεν οὖν ὁ πόρος τῶν χρημάτων, ἃ παρ' ὑμῶν κελεύω γενέσθαι, τοῦτ' ἤδη λέξω.

2. Translate accurately the following extracts, and explain their grammatical construction:—(*a*) οὐκ ἀθυμητέον τοῖς παροῦσι πράγμασιν, οὐδ' εἰ πάνυ φαύλως ἔχειν δοκεῖ. (*b*) ὡς χαλεπὸν πολεμεῖν ἐστιν Ἀθηναίοις ἔχουσι τοσαῦτα ἐπιτειχίσματα τῆς αὐτοῦ χώρας. (*c*) ἦν ὑμῶν αὐτῶν ἐθελήσετε γενέσθαι. (*d*) οἱ δὲ σύμμαχοι τεθνᾶσι τῷ δέει τοὺς τοιούτους ἀποστόλους.

3. (*a*) State what you know of the events which led to the delivery of the *Philippics*. (*b*) Explain the meaning of the following, giving the derivation where you can :—(1)*τὴν εἰρωνείαν*. (2) *ὁ ἐν ἡλικίᾳ στρατεύσθαι*. (3) *τὰς ἐπιστολιμαίους δυνάμεις*. (4) *τοὺς ἐτησίας*. (5) *τὴν τῶν Διονυσίων ἑορτήν*. (6) *χορηγός*. (*c*) *ἀγων καὶ φέρων* :—Explain, and express the phrase in Latin.

4. Translate :—

(B) Xenophon, Anabasis, I. :—

Ἐν τούτῳ καὶ βασιλεὺς δῆλος ἦν προϊὼν πάλιν ὡς ἐδόκει ὄπισθεν. Καὶ οἱ μὲν Ἕλληνες συστραφέντες παρεσκευάζοντο ὡς ταύτῃ προϊόντος καὶ δεξόμενοι· ὁ δὲ βασιλεὺς ταύτῃ μὲν οὐκ ἦγεν, ἦ δὲ παρῆλθεν ἔξω τοῦ εὐωνύμου κέρατος, ταύτῃ καὶ ἀπήγαγεν, ἀναλαβὼν καὶ τοὺς ἐν τῇ μάχῃ κατὰ τοὺς Ἕλληνας αὐτομολήσαντας καὶ Τισσαφέρνην καὶ τοὺς σὺν αὐτῷ. Ὁ γὰρ Τισσαφέρνης ἐν τῇ πρώτῃ συνόδῳ οὐκ ἔφυγεν, ἀλλὰ διήλασε παρὰ τὸν ποταμὸν κατὰ τοὺς Ἕλληνας πελταστάς· διελαύνων δὲ κατέκανε μὲν οὐδένα, διαστάντες δὲ οἱ Ἕλληνες ἔπαιον καὶ ἠκόντιζον αὐτούς· Ἐπισθένης δὲ Ἀμφιπολίτης ἦρχε τῶν πελταστῶν καὶ ἐλέγετο φρόνιμος γενέσθαι. Ὁ δ' οὖν Τισσαφέρνης ὡς μεῖον ἔχων ἀπηλλάγη, πάλιν μὲν οὐκ ἀναστρέφει, εἰς δὲ τὸ στρατόπεδον ἀφικόμενος τὸ τῶν Ἑλλήνων ἐκεῖ συντυγχάνει βασιλεῖ, καὶ ὁμοῦ δὴ πάλιν συνταξάμενοι ἐπορεύοντο. Ἐπεὶ δ' ἦσαν κατὰ τὸ εὐώνυμον τῶν Ἑλλήνων κέρας, ἐδεισαν οἱ Ἕλληνες μὴ προςάγοιεν πρὸς τὸ κέρας καὶ περιπτύξαντες ἀμφοτέρωθεν αὐτοὺς κατακόψειαν· καὶ ἐδόκει αὐτοῖς ἀναπτύσσειν τὸ κερας, καὶ ποιήσασθαι ὄπισθεν τὸν ποταμόν. Ἐν ᾧ δὲ ταῦτα ἐβουλεύοντο καὶ δὴ βασιλεὺς παραμειψάμενος εἰς τὸ αὐτὸ σχῆμα κατέστησεν ἐναντίαν τὴν φάλαγγα ὥςπερ τὸ πρῶτον μαχούμενος συνῆει. Ὡς δὲ εἶδον οἱ Ἕλληνες ἐγγύς τε ὄντας καὶ παρατεταγμένους, αὖθις παιανίσαντες ἐπῆεσαν πολὺ ἔτι προθυμότερον ἢ τὸ πρόσθεν. Οἱ δ' αὖ βάρβαροι οὐκ ἐδέχοντο, ἀλλ' ἐκ πλέονος ἢ τὸ πρόσθεν ἔφευγον· οἱ δ' ἐπεδιωκον μέχρι κώμης τινός.

5. (*a*) Give an account, with dates, of the Anabasis. (*b*) Define the geographical position of the following places :—Castolus, Miletus, Olynthus, Syracusae, Thapsacus, Tauri pylae, Tarsi, Cunaxa. Give modern names where you can. (*c*) Give the value of :—*obolus, drachma, mina, talentum ;* the length of :—*stathmos, parasang, stadium, plethrum*

6. (*a*) Explain the use of *ὡς* in the following, severally :—*μείζονα ἢ ὡς Πεισίδας. πορεύεται ὡς βασιλέα. ἱππέας ἔχων ὡς πεντακοσίους. ὡς ταύτῃ προσιόντος καὶ δεξόμενοι* :—explain the use of the genitive and of the Fut. Part. (*b*) Distinguish between :—*τρεφόμενον ἐλάνθενεν* and *ἐτρέφετο λανθάνον. ἠγεῖτο αὐτῶν* and *ἠγεῖτο αὐτοῖς. ἐπὶ τῶν νεῶν* and *ἐπὶ ταῖς ναυσὶν ὤν*. (*c*) Supply the ellipsis in each of the following :—(1) *ταύτῃ προσιόντος*. (2) *ἐκ πλέονος ἔφευγον*. (3) *καταλῦσαι πρὸς τοὺς ἀντιστασιώτας*. (4) *βασίλεια ἦν*.

7. Translate Homer, Iliad I. :—

(C) "Μή σε, γέρον, κοίλῃσιν ἐγὼ παρὰ νηυσὶ κιχείω
ἢ νῦν δηθύνοντ' ἢ ὕστερον αὖτις ἰόντα,
μή νύ τοι οὐ χραίσμῃ σκῆπτρον καὶ στέμμα θεοῖο.
τὴν δ' ἐγὼ οὐ λύσω· πρίν μιν καὶ γῆρας ἐπεισιν
ἡμετέρῳ ἐνὶ οἴκῳ, ἐν Ἄργεῖ, τηλόθι πάτρης,
ἱστὸν ἐποιχομένην καὶ ἐμὸν λέχος ἀντιόωσαν.
ἀλλ' ἴθι, μή μ' ἐρέθιζε, σαώτερος ὡς κε νέηαι."
Ὣς ἔφατ', ἐδδεισεν δ' ὁ γέρων καὶ ἐπείθετο μύθῳ.
βῆ δ' ἀκέων παρὰ θῖνα πολυφλοίσβοιο θαλάσσης,
πολλὰ δ' ἔπειτ' ἐπάνευθε κιὼν ἠρᾶθ' ὁ γεραιὸς
Ἀπόλλωνι ἄνακτι, τὸν ἠύκομος τέκε Λητώ.

(D) Θέτις δ' ὡς ἤψατο γούνων,
ὡς ἔχετ' ἐμπεφυυῖα, καὶ εἴρετο δεύτερον αὖτις
"Νημερτὲς μὲν δή μοι ὑπόσχεο καὶ κατάνευσον,
ἢ ἀπόειπ', ἐπεὶ οὔ τοι ἔπι δέος, ὄφρ' εὖ εἰδῶ
ὅσσον ἐγὼ μετὰ πᾶσιν ἀτιμοτάτη θεός εἰμι."
Τὴν δὲ μέγ' ὀχθήσας προσέφη νεφεληγερέτα Ζεύς
"ἦ δὴ λοίγια ἔργ', ὅτε μ' ἐχθοδοπῆσαι ἐφήσεις
Ἥρῃ, ὅτ ἄν μ' ἐρέθῃσιν ὀνειδείοις ἐπέεσσιν.
ἦ δὲ καὶ αὔτως μ' αἰεν ἐν ἀθανάτοισι θεοῖσιν
νεικεῖ, καί τέ μέ φησι μάχῃ Τρώεσσιν ἀρήγειν.
ἀλλὰ σὺ μὲν νῦν αὖτις ἀπόστιχε, μή σε νοήσῃ
Ἥρη· ἐμοὶ δέ κε ταῦτα μελήσεται, ὄφρα τελέσσω.
εἰ δ' ἄγε τοι κεφαλῇ κατανεύσομαι, ὄφρα πεποίθῃς·
τοῦτο γὰρ ἐξ ἐμέθεν γε μετ' ἀθανάτοισι μέγιστον
τέκμωρ· οὐ γὰρ ἐμὸν παλινάγρετον οὐδ' ἀπατηλὸν
οὐδ' ἀτελεύτητον, ὅ τι κεν κεφαλῇ κατανεύσω,"

8. Write down and parse the Epic forms of *nouns*, *pronouns* and *verbs* that occur in extt. (C) and (D and give their equivalents in the dialect of Xenophon.

9. Write down the scheme of the Homeric Poems. Scan (carefully marking the quantities of the several feet) the last four verses of ext. (C), and account for the quantity of the word *καί*.

10. Parse the following verbs :—*παροῦσιν, ἀπόφηναι, εἰσηνέχθη, μεῖναι, ἐπύθετο, κατακεκόψεσθαι, ἐπῆει, ἐδύνω, ἑλῶντα, σύνθοιτο.*

LATIN.

TUESDAY, SEPTEMBER 17TH:—AFTERNOON, 2 TO 5.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Cicero, Pro Lege Manilia:—

Reliquum est ut de felicitate, quam praestare de se ipso nemo potest, meminisse et commemorare de altero possumus, sicut aequum est homines de potestate deorum, timide et pauca dicamus. Ego enim sic existimo: Maximo, Marcello, Scipioni, Mario, et caeteris magnis imperatoribus non solum propter virtutem, sed etiam propter fortunam saepius imperia mandata atque exercitus esse commissos. Fuit enim profecto quibusdam summis viris quaedam ad amplitudinem et ad gloriam et ad res magnas bene gerendas divinitus adiuncta fortuna. De huius autem hominis felicitate, de quo nunc agimus, hac utar moderatione dicendi, non ut in illius potestate fortunam positam esse dicam, sed ut praeterita meminisse, reliqua sperare videamur, ne aut invisa dis immortalibus oratio nostra aut ingrata esse videatur. Itaque non sum praedicaturus quantas ille res domi militiae, terra marique, quantaque felicitate gesserit, ut eius semper voluntatibus non modo cives adsenserint, socii obtemperarint, hostes obedierint, sed etiam venti tempestatesque obsecundarint: hoc brevissime dicam, neminem umquam tam impudentem fuisse, qui ab dis immortalibus tot et tantas res tacitus auderet optare, quot et quantas di immortales ad Cn. Pompeium detulerunt.

2. (*a*) State briefly the occasion and object of the delivery of this oration by Cicero. (*b*) "Maximo, Marcello, Scipioni, Mario:"—Explain the historical references. (*c*) Explain and derive the word *Quirites*.

3. Write short explanatory notes on the following:—(*a*) Vectigalia. (*b*) Propter dilationem *comitiorum*. (*c*) *Centuriis* cunctis. (*d*) *Equitibus* Romanis. (*e*) Cum *imperio*. (*f*) *Ex portu*, *decumis*, *scriptura*, *saltibus* (alii, *salinis*, *silvis*, *salictis*; distinguish between these).

4. Translate, Horace, Odes, Book I.:—

(B) Nullam, Vare, sacra vite prius severis arborem
circa mite solum Tiburis et moenia Catili.
Siccis omnia nam dura deus proposuit; neque
mordaces aliter diffugiunt sollicitudines.
Quis post vina gravem militiam aut pauperiem crepat?
quis non te potius, Bacche pater, teque, decens Venus?
At ne quis modici transiliat munera Liberi,
Centaurea monet cum Lapithis rixa super mero
debellata, monet Sithoniis non levis Evius,
quum fas atque nefas exiguo fine libidinum
discernunt avidi. Non ego te, candide Bassareu,
invitum quatiam; nec variis obsita frondibus

sub divum rapiam. Saeva tene cum Berecyntio
cornu tympana, quae subsequitur caecus amor sui,
et tollens vacuum plus nimio gloria verticem,
arcanique fides prodiga, perlucidior vitro.

(C) Poscimur :—si quid vacui sub umbra
lusimus tecum, quod et hunc in annum
vivat, et plures,—age, dic, Latinum,
barbite, carmen,
Lesbio primum modulate civi ;
qui, ferox bello, tamen inter arma,
sive iactatam religarat udo
litore navim,
Liberum et Musas Veneremque, et illi
semper haerentem puerum canebat ;
et Lycum, nigris oculis nigroque
crine decorum.
O decus Phoebi, et dapibus supremi
grata testudo Iovis, o laborum
dulce lenimen, mihi cumque salve
rite vocanti.

5. (*a*) State what you know about the person to whom ext. (B) is addressed. (*b*) Explain :—(1) Et moenia Catili. (2) Cum Lapithis rixa. (3) Evius. (4) Bassareu. (5) Berecyntio cornu. (6) Lesbio civi. (*c*) Write down the scale of the metre, and scan the first stanza of ext. (C).

6 Explain the following geographical references, noting the meaning of the adjectives used :—Dacus asper. Profugi Scythae. Carpathium pelagus. Gratum Antium. Oceano rubro. Massagetas. Horribili Medo. Fabulosus Hydaspes.

7. Translate :—

(D) Ovid, Fasti :—

Finierat monitus ; placidis ita rursus, ut ante,
Clavigerum verbis alloquor ipse deum :
Multa quidem didici : sed cur navalis in aere
Altera signata est, altera forma biceps ?
Noscere me duplici posses in imagine, dixit,
Ni vetus ipsa dies extenuaret opus.
Causa ratis superest : Tuscum rate venit in amnem
Ante pererrato falcifer orbe deus.
Hac ego Saturnum memini tellure receptum ;
Caelitibus regnis ab Jove pulsus erat.
Inde diu genti mansit Saturnia nomen ;
Dicta quoque est Latium terra latente deo.
At bona posteritas puppim formavit in aere,
Hospitis adventum testificata dei.
Ipse solum colui, cujus placidissima laevum
Radit arenosi Tibridis unda latus.

Hic, ubi nunc Roma est, incaedua silva virebat,
Tantaque res paucis pascua bubus erat.
Arx mea collis erat, quem cultrix nomine nostro
Nuncupat haec aetas, Janiculumque vocat.

8. (*a*) Give a short account of the Fasti of Ovid. (*b*) Give the etymology and meaning of the following terms:—Dies *fasti, nefasti. Kalendae. Nonae. Idus.*

9. Explain the following constructions:—(*a*) Appetentes gloriae. (*b*) Delenda vobis est macula. (*c*) Vos, tot civium millibus uno nuntio atque uno tempore necatis, quo tandem animo esse debetis.

10. Parse, giving their principal parts:—edite, stratus, visere, retortis, incubuit, mirabere, gesserit, intactae, affatus, severis.

GRAMMAR AND COMPOSITION.

TUESDAY, SEPTEMBER 17TH:—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. (*a*) Distinguish between *inflected* and *non-inflected* words. (*b*) Define the terms *Root, Stem, Prefix, Suffix, Case.*

2. Write down the three characters that represent consonantal combinations in the Greek alphabet, and name the consonants that can end words.

3. (*a*) Decline the following nouns and adjectives:—*κάλλος, καλός, πολίτης, ὄρνις, ἐλέφας, μέγας.* (*b*) Give instances of adjectives of one, two, and three terminations. Write down the Comparative and Superlative of:—*σοφός, ἡδύς, κοῦφος, πολύς.* (*c*) Give the *Genitive Singular* of the following pronouns:—*ἐγώ, αὐτός, οὗτος. τίς,* and *ὅστις.*

4. (*a*) Name the *principal* and *historical* Tenses. (*b*) What is meant by *pure, mute,* and *liquid* Verbs in Greek? (*c*) Conjugate the Present and Imperfect Indicative Active of *καλέω*; the Optative and Subjunctive Aorist, Active, of the same; and likewise the Aorist and Future Passive, and Middle, of *βουλεύω.* (*d*) Distinguish between *ἀπόφηναι, ἀποφῆναι,* and *ἀποφήναι.*

5. Translate into Greek:—(1) He admires and praises the good man. (2) The men of the city said this. (3) Cyrus sent for the ships that he might land the heavy armed troops. (4) Both the father and his daughter are good. (5) The Persians were fighting a great battle, but they were conquered by the Greeks.

6. (*a*) What nouns of the Third Declension in Latin have the *Gen. Plu.* in—*ium*? (*b*) Decline the following nouns:—*anima, judex, calcar, apis, domus, respublica.* (*c*) Give the rule for the gender of *dies.*

7. (*a*) How many classes of Adjectives are there in Latin? (*b*) Decline *tener, celer, gravis, par, felix.* (*c*) Compare *acer, gracilis, levis, malevolus, senex.*

8. Distinguish between *hic, ille, iste,* and *is: ĭdem* and *īdem: hic* and *hicce: quis, quae quid,* and *qui, quae, quod.* With what pronouns is *cum* an enclitic?

9. (*a*) Write down the principal parts of:—*cupio, cumbo, vincio, cædo.* (*b*) Inflect the Pres. Subj., Pass., of *juvo*; the Perf. Subj., Act., of *cedo,* and the Imp. Subj. of *volo*; and mark the quantity of the *penultimate* of each form.

10. Translate into Latin :—

The Gauls gave Cæsar much information about their own affairs, and denied that they had undertaken to do the Roman state any harm. The consuls published a proclamation that no citizen should leave the city of Rome. The accused came and threw themselves at the feet of the dictator, and entreated that he would not suffer them to be condemned to die. Pericles was so generous that he gave all his lands as a free-gift to the state. It is the duty of a good citizen to give up even his life for his country. I fear he will come, but I warned him not to come.

MATHEMATICS.

WEDNESDAY, SEPTEMBER 18TH :—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Construct an equilateral triangle, in which each of the base angles shall be double the vertical.

a. Divide a right angle into five equal parts.

2. If a right line be a tangent to a circle, and from the point of contact a right line be drawn, cutting the circle, the angle made by this line with the tangent is equal to the angle in the alternate segment of the circle.

If several circles touch each other externally at a common point of contact, any chord passing through the point of contact will cut off similar segments from each.

3. If a right line be a tangent to a circle, the right line drawn perpendicular to it from the point of contact passes through the centre of the circle.

a. If two concentric circles be described, any chord of the greater, which is a tangent to the less, is bisected at the point of contact.

4. The angles in the same segment of a circle are equal.

5. In any triangle, the square of the side subtending an acute angle is less than the sum of the squares of the sides which contain it, by twice the rectangle under either of them and the segment which is intercepted between the acute angle and the perpendicular let fall on it from the opposite angle.

a. The sum of the squares of the sides of any quadrilateral exceeds the sum of the squares of its diagonals by four times the square of the line joining the points of bisection of the diagonals.

6. If a right line be divided into any two parts, the square of the whole line is equal to the sum of the squares of the parts and twice the rectangle under the parts.

7. On a given right line, construct a parallelogram equal to a given triangle, and having an angle equal to a given one.

8. The sum of the internal angles of any polygon together with four right angles is equal to twice as many right angles as the figure has sides.

MATHEMATICS.

WEDNESDAY, SEPTEMBER 18TH:—AFTERNOON, 2 TO 5.

Examiner, ... ALEXANDER JOHNSON, LL.D.

1. Find the sum of the series $\frac{1}{3} + \frac{1}{2} + \frac{3}{4}$ to n terms.

2. Insert two Harmonic means between 6 and 24.

3. Solve the following equations:—

$$\sqrt{a^2 + x^2} + \sqrt{a^2 - x^2} = b;$$

$$\frac{10x + 17}{18} - \frac{12x + 2}{11x - 8} = \frac{5x - 4}{9};$$

$$\frac{x}{9} + \frac{y}{8} = 43, \quad \frac{x}{8} + \frac{y}{9} = 42;$$

$$\frac{x + 2}{x - 1} - \frac{4 - x}{2x} = 2\tfrac{1}{3}.$$

4. Find a fraction such that if 1 be added to its numerator, it becomes $\frac{1}{3}$; but if 1 be added to its denominator it becomes $\frac{1}{4}$.

5. There are three numbers in geometrical progression; the sum of the first and second exceeds the third by 1, and three times the second is equal to twice the third; find the numbers.

6. Simplify the surd:—

$$\sqrt{48\,ab^2} + b\sqrt{75a} + \sqrt{3a\,(a-9b)^2}$$

7. Divide $x^4 - \frac{1}{x^4}$ by $x - \frac{1}{x}$.

8. Reduce to its simplest form

$$\frac{x+y}{y} - \frac{2x}{x+y} + \frac{x^3 - x\,y^2}{y^3 - x\,y^2}$$

9. Divide 172.9 by .142 to three places of decimals.

10. Add together $1\frac{1}{2} + 3\frac{1}{4} - \frac{3}{5}$ and divide the result by half the difference between $4\frac{2}{3}$ and $\frac{5}{6}$.

11. A room whose length is 15 feet $5\frac{1}{2}$ inches, and whose breadth is 14 feet $8\frac{1}{2}$ inches, is to be covered with carpeting which is 27 inches wide. Find how many yards of the material will be required with the least amount of waste; and calculate its cost at $1.60 a yard.

12. In what time will £1275 amount to £1549 11s. at $3\frac{1}{2}$ per cent. simple interest.

13. Reduce 2 oz. 13 dwts. to the decimal of 1 lb.

14. Find the greatest common measure of 4067 and 2573.

ENGLISH LANGUAGE.

THURSDAY, SEPTEMBER 19TH:—MORNING, 9 TO 12.

Examiner,..... .....VEN. ARCHDEACON LEACH, D.C.L.

1. Give the particular class of Nouns to which each of the following belongs:—Regiment, Youth, Tenantry, Lawyer, Rock, Metal, Fleet, Nature, Clan, Jury, Rome, Providence, Fate, Jury, Shakespeare, Clay, Law Iron, City, Colour, Star, Will, Virtue.

2. Give the particular class to which each of the following Pronouns belongs:—It, This, I, He, Who, They, Which, She, Them, What, Whoever Thou.

3. What class of Nouns is least suited to become Adjectives?

4. Which are the Pronouns denominated Indefinite?

5. Into what classes are Adjectives divided? Give an example or examples of each class.

6. What are Proper Adjectives?

7. Give the definition of an Adverb.

8. How are Prepositions distinguished from Cŏnjunctions?

9. Which are the Relative Adverbs, and why are they so denominated?

10. Mention the particular class of Verbs to which each of the following belongs:—"The newborn child sees," "He lies," He lays," "The robbers fell upon him," "Men build, time pulls down," "He rises," "He raises," "He lived an Apostle," "He lives a solitary life," "He died a Martyr," "He became King."

11. Why is the distinction between Intransitive Verbs expressing action and Neuter Verbs discarded?

12. Give the Indefinite, Imperfect and Perfect corresponding to the Present, Past and Future tenses of the verb "to speak."

13. Explain the terms "Prosody," "Accent," "Quantity," "Measure," "Metre."

14. Express by notation the measures in the following lines:—

"I wondered what might ail the bird,
"For nothing near it I could see
"Save the grass and green herbs underneath the old tree."

15. What does English Metre essentially consist in?

16. Give examples of the different Trisyllabic measures.

17. Give the conditions of a perfect rhyme.

18. How is the last measure in a line or verse to be regarded?

19. Give examples of Blank Verse and of the Heroic Couplet.

SECOND YEAR EXHIBITIONS.

GREEK.

TUESDAY, SEPTEMBER 17TH:—MORNING, 9 TO 12.

Examiner.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Homer, Iliad, VI.:—

τὸν δ' Ἑλένη μύθοισι προσηύδα μειλιχίοισιν
"Δᾶερ ἐμεῖο, κυνὸς κακομηχάνου, ὀκρυοέσσης,
ὡς μ' ὄφελ' ἤματι τῷ ὅτε με πρῶτον τέκε μήτηρ
οἰχέσθαι προφέρουσα κακὴ ἀνέμοιο θύελλα
εἰς ὄρος ἢ εἰς κῦμα πολυφλοίσβοιο θαλάσσης,
ἔνθα με κῦμ' ἀπόερσε πάρος τάδε ἔργα γενέσθαι.
αὐτὰρ ἐπεὶ τάδε γ' ὧδε θεοὶ κακὰ τεκμήραντο,
ἀνδρὸς ἔπειτ' ὤφελλον ἀμείνονος εἶναι ἄκοιτις,
ὃς ἤδη νέμεσίν τε καὶ αἶσχεα πόλλ' ἀνθρώπων.
τούτῳ δ' οὔτ' ἂρ νῦν φρένες ἔμπεδοι οὔτ' ἄρ' ὀπίσσω
ἔσσονται· τῷ καί μιν ἐπαυρήσεσθαι ὀΐω.
ἀλλ' ἄγε νῦν εἴσελθε καὶ ἕζεο τῷδ' ἐπὶ δίφρῳ,
δᾶερ, ἐπεί σε μάλιστα πόνος φρένας ἀμφιβέβεκεν
εἵνεκ' ἐμεῖο κυνὸς καὶ Ἀλεξάνδρου ἕνεκ' ἄτης,
οἷσιν ἐπὶ Ζεὺς θῆκε κακὸν μόρον, ὡς καὶ ὀπίσσω
ἀνθρώποισι πελώμεθ' ἀοίδιμοι ἐσσομένοισιν."

2. (*a*) Construe carefully vss. 2–5, inclusive, of ext. (A). (*b*) ἀπόερσε:—Comment on the meanings and derivations that have been assigned to this verb. (*c*) In vs. 11, explain the meaning of τῷ; suppose τῶν be adopted instead, how would you interpret it?

3. Give the meaning and derivation, where you can of:—δᾶερ, δμωῇσιν, γαλόων, εἰνατέρων, ὀτρηρή, νήπιον, πότνια, ἄλοχοι, ἔτας, πόσιας.

4. Translate:—

(B) Homer, Odyssey, XII.:—

Θρινακίην δ' ἐς νῆσον ἀφίξεαι· ἔνθα δὲ πολλαὶ
βόσκονθ' Ἡελίοιο βόες καὶ ἴφια μῆλα,
ἑπτὰ βοῶν ἀγέλαι, τόσα δ' οἰῶν πώεα καλά,
πεντήκοντα δ' ἕκαστα· γόνος δ' οὐ γίγνεται αὐτῶν,
οὐδέ ποτε φθινύθουσι. θεαὶ δ' ἐπιποιμένες εἰσίν,
νύμφαι ἐϋπλόκαμοι, Φαέθουσά τε Λαμπετίη τε,

ἃς τέκεν Ἠελίῳ Ὑπερίονι δῖα Νέαιρα.
τὰς μὲν ἄρα θρέψασα τεκοῦσά τε πότνια μήτηρ
Θρινακίην ἐς νῆσον ἀπῴκισε τηλόθι ναίειν,
μῆλα φυλασσέμεναι πατρώϊα καὶ ἕλικας βοῦς.
τὰς εἰ μὲν κ' ἀσινέας ἐάᾳς νόστου τε μέδηαι,
ἦ τ' ἂν ἔτ' εἰς Ἰθάκην κακά περ πάσχοντες ἵκοισθε·
εἰ δέ κε σίνηαι, τότε τοι τεκμαίρομ' ὄλεθρον
νηΐ τε καὶ ἑτάροις· αὐτὸς δ' εἴ πέρ κεν ἀλύξῃς,
ὀψὲ κακῶς νεῖαι, ὀλέσας ἀπο πάντας ἑταίρους."

5. (*a*) With what did the ancients identify the island of Thrinakia? What different derivations have been given of the name? (*b*) Give the derivation and meaning of the following names, severally:—
Σειρῆνες, Πλαγκταί, Σκύλλη. Κραταιίς, Φαεθουσά, Λαμπετίη, Νέαιρα, Χάρυβδίς.

6. Parse carefully the following words:—*τεύξομεν, ἤλυξα, ἦα, νεός, τοί, οὗτα, ἀυτῇ, ἠνις, βείω, φάν, ἶξε, μιγήμεναι·*

7. Translate:—

(C) Herodotus, I.:—

Μετὰ δὲ ταῦτα (οὐ γὰρ δὴ ὁ Ἀλυάττης ἐξεδίδου τοὺς Σκύθας ἐξαιτέοντι Κυαξάρεϊ) πόλεμος τοῖσι Λυδοῖσι καὶ τοῖσι Μήδοισι ἐγεγόνεε ἐπ' ἔτεα πέντε, ἐν τοῖσι πολλάκις μὲν οἱ Μῆδοι τοὺς Λυδοὺς ἐνίκησαν, πολλάκις δέ οἱ Λυδοὶ τοὺς Μήδους· ἐν δὲ καὶ νυκτομαχίην τινὰ ἐποιήσαντο. διαφέρουσι δέ σφι ἐπὶ ἴσης τὸν πόλεμον, τῷ ἕκτῳ ἔτεϊ συμβολῆς γενομένης, συνήνεικε ὥστε τῆς μάχης συνεστεώσης τὴν ἡμέρην ἐξαπίνης νύκτα γενέσθαι. τὴν δὲ μεταλλαγὴν ταύτην τῆς ἡμέρης Θαλῆς ὁ Μιλήσιος τοῖσι Ἴωσι προηγόρευσε ἔσεσθαι, οὖρον προθέμενος ἐνιαυτὸν τοῦτον, ἐν τῷ δὴ καὶ ἐγένετο ἡ μεταβολή. οἱ δὲ Λυδοὶ τε καὶ οἱ Μῆδοι, ἐπεί τε εἶδον νύκτα ἀντὶ ἡμέρης γινομένην, τῆς μάχης τε ἐπαύσαντο καὶ μᾶλλόν τι ἔσπευσαν καὶ ἀμφότεροι εἰρήνην ἑωυτοῖσι γενέσθαι. οἱ δὲ συμβιβάσαντες αὐτοὺς ἦσαν οἵδε, Συέννεσίς τε ὁ Κίλιξ καὶ Λαβύνητος ὁ Βαβυλώνιος. οὗτοί σφι καὶ τὸ ὅρκιον οἱ σπεύσαντες γενέσθαι ἦσαν, καί γάμων ἐπαλλαγὴν ἐποίησαν· Ἀλυάττεα γὰρ ἔγνωσαν δοῦναι τὴν θυγατέρα Ἀρύηνιν Ἀστυάγεϊ τῷ Κυαξάρεω παιδί· ἄνευ γὰρ ἀναγκαίης ἰσχυρῆς συμβάσιες ἰσχυραὶ οὐκ ἐθέλουσι συμμένειν. ὅρκια δὲ ποιέεται ταῦτα τὰ ἔθνεα τάπερ τε Ἕλληνες, καὶ πρὸς τούτοισι, ἐπεὰν τοὺς βραχίονας ἐπιτάμωνται ἐς τὴν ὁμοχροίην τὸ αἷμα ἀναλείχουσι ἀλλήλων.

8. (*a*) Write a sketch of the life of Herodotus. (*b*) Give the import of the particles *καὶ δή. καὶ δὴ καί. οὕτω δή.* (*c*) *δουλώσας ἔχεις*:—translate and explain the force of this idiom.

9. Translate :—

(D) Xenophon, Hellenics, I. :—

Ἐντεῦθεν ἐκκλησίαν ἐποίουν, εἰς ἣν ἡ βουλὴ εἰσήνεγκε τὴν ἑαυτῆς γνώμην Καλλιξένου εἰπόντος τήνδε· Ἐπειδὴ τῶν τε κατηγορούντων κατὰ τῶν στρατηγῶν καὶ ἐκείνων ἀπολογουμένων ἐν τῇ προτέρᾳ ἐκκλησίᾳ ἀκηκόασι, διαψηφίσασθαι Ἀθηναίους ἅπαντας κατὰ φυλάς· θεῖναι δὲ εἰς τὴν φυλὴν ἑκάστην δύο ὑδρίας· ἐφ' ἑκάστῃ δὲ τῇ φυλῇ κήρυκα κηρύττειν, ὅτῳ δοκοῦσιν ἀδικεῖν οἱ στρατηγοὶ οὐκ ἀνελόμενοι τοὺς νικήσαντας ἐν τῇ ναυμαχίᾳ, εἰς τὴν προτέραν ψηφίσασθαι, ὅτῳ δὴ μή, εἰς τὴν ὑστέραν· ἂν δὲ δόξωσιν ἀδικεῖν θανάτῳ ζημιῶσαι καὶ τοῖς ἑνδεκα παραδοῦναι καὶ τὰ χρήματα δημοσιεῦσαι, τὸ δ' ἐπιδέκατον τῆς θεοῦ εἶναι. παρῆλθε δέ τις εἰς τὴν ἐκκλησίαν φάσκων ἐπὶ τεύχους ἀλφίτων σωθῆναι· ἐπιστέλλειν δ' αὐτῷ τοὺς ἀπολλυμένους, ἐὰν σωθῇ, ἀπαγγεῖλαι τῷ δήμῳ ὅτι οἱ στρατηγοὶ οὐκ ἀνείλοντο τοὺς ἀρίστους ὑπὲρ τῆς πατρίδος γενομένους. τὸν δὲ Καλλίξενον προσεκαλέσαντο παράνομα φάσκοντες γεγραφέναι Εὐρυπτόλεμός τε ὁ Πεισιάνακτος καὶ ἄλλοι τινές. τοῦ δὲ δήμου ἔνιοι ταῦτα ἐπῄνουν, τὸ δὲ πλῆθος ἐβόα δεινὸν εἶναι εἰ μή τις ἐάσει τὸν δῆμον πράττειν ὃ ἂν βούληται.

10. (*a*) Write short explanatory notes on :—(1) *ἐκκλησίαν ἐποίουν.* (2) *ἡ βουλὴ εἰσήνεγκε τὴν ἑαυτῆς γνώμην.* (3) *εἰς τὴν φυλὴν ἑκάστην.* (4) *τοὺς νικήσαντας ἐν τε ναυμαχίᾳ.* (*b*) Name the dialects used in the extt. above given for translation, and point out their leading peculiarities severally. (*c*) Assign to their several dialects the following, and give Attic equivalents :—*ποιήσειαν, πόλιος, ἀπολέει, μεζονας, ἐμεῖο, ᾖδη, ἐξεο, ἀφίξεαι, κέν, τῶνδρες, ἀπορίομες, νηός.*

LATIN.

TUESDAY, SEPTEMBER 17TH :—AFTERNOON, 2 TO 5.

Examiner, ...REV. GEORGE CORNISH, LL.D

1. Translate, Virgil, Æneid, VI. :—

(A) In medio ramos annosaque brachia pandit
Ulmus, opaca, ingens; quam sedem Somnia vulgo
Vana tenere ferunt, foliisque sub omnibus hærent.
Multaque præterea variarum monstra ferarum,
Centauri in foribus stabulant, Scyllæque biformes,
Et centumgeminus Briareus, ac Bellua Lernæ
Horrendum stridens, flammisque armata Chimæra.
Gorgones, Harpyiæque, et forma tricorporis umbræ.
Corripit hic subita trepidus formidine ferrum

Æneas, strictamque aciem venientibus offert;
Et, ni docta comes tenues sine corpore vitas
Admoneat volitare cava sub imagine formæ,
Irruat, et frustra ferro diverberet umbras.

(B) Cerberus hæc ingens latratu regna trifauci
Personat, adverso recubans immanis in antro:
Cui vates, horrere videns jam colla colubris,
Melle soporatam et medicatis frugibus offam
Objicit. Ille, fame rabida, tria guttura pandens,
Corripit objectam, atque immania terga resolvit
Fusus humi, totoque ingens extenditur antro.
Occupat Æneas aditum, custode sepulto,
Evaditque celer ripam irremeabilis undæ.

2. (*a*) Write a short account of the life and works of Virgil. Give the proper way of spelling his name. (*b*) Explain the mythological allusions of ext. (A). How do you construe *volgo?* (*c*) Comment on the expressions:—(1) *Socios pura*, circumtulit *aqua*. (2) Non *inferiora* secutus. (3) Madida *cum* veste gravatum. (4) *Alacris* palmas utrasque tetendit. (5) Virtutem extendere *factis*;—Give the variant for *factis*.

3. Translate, Horace, Odes III.:—

(C) Tyrrhena regum progenies, tibi
non ante verso lene merum cado,
cum flore, Maecenas, rosarum, et
pressa tuis balanus capillis

iamdudum apud me est. Eripe te morae,
ne semper udum Tibur et Aesulae
declive contempleris arvum, et
Telegoni iuga parricidae.

Fastidiosam desere copiam et
molem propinquam nubibus arduis:
omitte mirari beatae
fumum et opes strepitumque Romae.

Plerumque gratae divitibus vices,
mundaeque parvo sub lare pauperum
coenae, sine aulaeis et ostro,
sollicitam explicuere frontem.

Iam clarus occultum Andromedae pater
ostendit ignem: iam Procyon furit
et stella vesani Leonis,
sole dies referente siccos.

Iam pastor umbras cum grege languido
rivumque fessus quaerit et horridi
dumeta Silvani; caretque
ripa vagis taciturna ventis.

Tu, civitatem quis deceat status,
curas, et Urbi sollicitus times,
quid Seres et regnata Cyro
Bactra parent, Tanaisque discors.

4. (*a*) *Tyrrhena progenies;*—explain, and write a short account of the political and social position of Maecenas. (*b*) Write explanatory notes on:—Balanus. Molem propinquam. Aulaeis et ostro. Procyon. Seres. (*c*) Construe:—*tibi; verso cado; morae; ut* semper udum—*ne* semper udum—*contempleris;*—(distinguish between these readings, and show which is preferable); potens *sui*. (*d*) Name, and give the scale of the metre of ext. (C), and scan the first stanza.

5. Translate, Cicero, Select Letters:—

(D) Nihil mihi nunc scito tam deesse quam hominem eum, quocum omnia, quae me cura aliqua adficiunt, una communicem, qui me amet, qui sapiat, quicum ego ex animo loquar, nihil fingam, nihil dissimulem, nihil obtegam. Abest enim frater ἀφελέστατος et amantissimus. Metellus non homo, sed 'litus atque aër et solitudo mera!' tu autem, qui saepissime curam et angorem animi mei sermone et consilio levasti tuo, qui mihi et in publica re socius et in privatis omnibus conscius et omnium meorum sermonum et consiliorum particeps esse soles, ubinam es? ita sum ab omnibus destitutus, ut tantum requietis habeam, quantum cum uxore et filiola et mellito Ciceronе consumitur; nam illae ambitiosae nostrae fucosaeque amicitiae sunt in quodam splendore forensi, fructum domesticum non habent. Itaque, cum bene completa domus est tempore matutino, cum ad forum stipati gregibus amicorum descendimus, reperire ex magna turba neminem possumus, quocum aut iocari libere aut suspirare familiariter possimus. Qua re te exspectamus, te desideramus, te iam etiam arcessimus; multa sunt enim, quae me sollicitant anguntque, quae mihi videor auris nactus tuas unius ambulationis sermone exhaurire posse.

6. (*a*) Give your estimate of the value of Cicero's Letters from an historical and from a literary point of view. (*b*) Explain the use of *cum* with the *Perf.* and *Pluperf. Ind.*, severally. (*c*) Expand the following, and give the dates according to our method of reckoning:—(1) D. a. d. VI. K. Apr. (2) A. d. III. Non. Mart. (3) Idibus Sextilibus. (4) Pr. Kal. Mai. (5) In a. d. XV. Kal. Novembr.

7. Translate, Livy, Bk. IX.:—

(E) Iam Romae etiam sua infamis clades erat. obsessos primum audierunt; tristior deinde ignominiosae pacis magis quam periculi nuntius fuit. ad famam obsidionis dilectus haberi coeptus erat; dimissus deinde

auxiliorum apparatus, postquam deditionem tam foede factam acceperunt, extemploque sine ulla publica auctoritate consensum in omnem formam luctus est: tabernae circa forum clausae iustitiumque in foro sua sponte coeptum prius quam indictum, lati clavi, anuli aurei positi; paene maestior exercitu ipso civitas esse, nec ducibus solum atque auctoribus sponsoribusque pacis irasci, sed innoxios etiam milites odisse et negare urbe tectisve accipiendos. quam concitationem animorum fregit adventus exercitus etiam iratis miserabilis. non enim tamquam in patriam revertentes ex insperato incolumes, sed captorum habitu vultuque ingressi sero in urbem ita se in suis quisque tectis abdiderunt, ut postero atque insequentibus diebus nemo eorum forum aut publicum aspicere vellet. consules in privato abditi nihil pro magistratu agere, nisi quod expressum senatus consulto est, ut dictatorem dicerent comitiorum causa. Q. Fabium Ambustum dixerunt et P. Aelium Paetum magistrum equitum.

8. Write short explanatory notes on the following from ext (E):—(1) Infamis clades. (2) Justitium. (3) Ut dictatorem dicerent comitiorum causa. (4) Lati clavi. (5) Anuli aurei.

9. Parse (giving the first Sing. Present, Perfect and Future Indicative of each,) the following verbs:—fare, praeterlabere, fungar, cucurrit, prendimus, oraveris, decerpserit, texit, incubuere, lætere, perlegerent, sequere.

HISTORY AND GRAMMAR.

WEDNESDAY, SEPTEMBER 18TH:—AFTERNOON, 3 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

(A) 1. Give a general account of the physical geography of Greece, and point out in what respects the character of the inhabitants was modified thereby.

2. What were the leading features of the *monarchical*, *oligarchical*, and *democratic* forms of government in the Hellenic States? In what States were these, severally, best exemplified?

3. The *seccessions* of the *Plebs* at Rome:—their causes, objects, and results.

4. By what means and policy did Rome accomplish the conquest and subjugation of Greece.

(B) 1. (*a*) What participles has the verb in Greek which are wanting in Latin? How does the Latin supply the defect? (*b*) Name the *Primary* and the *Historic* tenses. Why are they so designated? (*c*) Mention (1st Sing., and Ind. Act.,) the Fut. of ἄγνυμι: the Aor. I. of στέλλω: the Perf. of ἵημι: the Perf. II. of πείθω: the Aor. II. of τίκτω.

2. (*a*) Illustrate the use of the Article with the *attributive* and with the *predicative* word in a sentence. (*b*) Illustrate by examples the use of the *Objective* and the *Subjective Genitive;* the *Cognate Accusative;* and the *Dativus Ethicus.*

3. (*a*) Give examples, with definitions, of verbs *frequentative*, *desiderative*, and *inceptive*, in Latin. (*b*) How is the *Fut. Inf. Pass.* expressed in Latin? Illustrate with *gero*, *haurio*, *jubeo*, *sero.*

4. (*a*) Distinguish between:—*pendo* and *pendeo; veneo* and *venio; prodo* and *prodeo; visere* and *videre; vincere* and *vincire; sero-sertum* and *sero satum.* (*b*) Illustrate by examples the use of the *Ablative Absolute;* the *Predicative Dative;* and the *Accusative of extension.*

(C) 1. Translate into Greek:—(*a*) He read the half of the book. (*b*) The State ought to be benefited by the citizens. (*c*) The general was entrusted with the command in company with three others. (*d*) If he had had anything he would himself have given it.

2. Translate into Latin:—Herodotus, son of Lyces, was born in 484 B.C., at Halicarnassus in Caria. This city was Dorian, but had a large Ionian element in its population. The family of Herodotus, a noble one, was probably Dorian; but he may have been familiar with the Ionic dialect from his youth. At the time of his birth the city was governed under Persia by Artemisia, the Queen who fought so bravely for Xerxes at Salamis. Her grandson and successor Lygdamis put to death Panyasis, the maternal uncle of Herodotus, a man known in literature as one of the restorers of epic poetry. Herodotus, we are told, fled from Lygdamis to the Ionian Island of Samos; returned to Halicarnassus after the tyrant had been driven out; but again left his native place, and came to Athens about 446 B. C. Athenian power, art and poetry were then at their height under Pericles

---

MATHEMATICS.

WEDNESDAY, SEPTEMBER 18TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Parallelograms about the diagonal of any parallelogram are similar to the whole and to each other.

2. Similar polygons are divisible into similar triangles equal in number and having the same ratio to one another that the polygons have; and the polygons are to one another in the duplicate ratio of their homologous sides.

3. In a given circle inscribe a triangle equiangular to a given triangle.

4. On the same right line and on the same side of it there cannot be two similar segments of circles which do not coincide.

5. Prove

$$\sin A + \sin B = 2 \sin \tfrac{1}{2}(A+B) \cos \tfrac{1}{2}(A-B).$$

6. Find the value of sin 18° to three places of decimals.

7. If versin $A = \frac{1}{9}$, calculate $\tan A$.

8. The area of any triangle is equal to half the product of two sides, multiplied by the sine of the included angle.

9. Solve the equations:

$$\left.\begin{aligned} \frac{m}{x} + \frac{n}{y} &= a \\ \frac{n}{x} + \frac{m}{y} &= b \end{aligned}\right\};$$

$$\sqrt{1+x+x^2} = a - \sqrt{1-x+x^2}.$$

10. Find the value of

$$\frac{x+2a}{x-2a} + \frac{x+2b}{x-2b} \quad \text{when } x = \frac{4ab}{a+b}.$$

11. Simplify the expression

$$5\sqrt{3} \times 7\sqrt[3]{3} \times \sqrt{2}.$$

12. Find a number such that its cube root is $\frac{1}{5}$ of its square root.

MATHEMATICS.

WEDNESDAY, SEPTEMBER 18TH :—AFTERNOON, 2 TO 5.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. One vertex of a triangle given in species turns round a fixed point, anp another vertex moves along a fixed straight line; find the locus of the remaining vertex.

2. Through a given point within a given angle, draw a straight line cutting the sides of the given angle so that the rectangle under the intercepts between the point and the sides of the given angle may be equal to a given rectangle.

3. If two circles do not meet one another, any system of circles cutting them orthogonally always passes through two fixed points on the line joining the centres of the two given circles.

4. The tangents at the angular points of any triangle inscribed in a circle intersect the opposite sides in three points which are situated in a straight line.

5. If three pairs of tangents be drawn to a circle from three points in a straight line, they will cut any seventh tangent in involution.

6. If a quadrilateral be inscribed in a circle and another be circumscribed, touching at the angular points, prove that their diagonals intersect in the same point, and form an harmonic pencil.

7. If A B C, A′ B′ C′ be two triangles such that A is the pole of B′ C′, B of C′ A′ and C of A′ B′, then the straight lines A A′, B B′ and C C′ shall meet in a point.

8. Given a system of three co-axal circles; if from any point on one, tangents be drawn to the other two, these tangents will be in a constant ratio.

9. Solve the equation:

$$2x^4 - 5x^3 + 6x^2 - 5x + 2 = 0$$

10. The product of two of the roots of the following equation is 1; solve the equation.

$$x^4 - 4x^3 + 5x^2 - 16x + 4 = 0$$

11. Show that $x^4 + qx^2 + s = 0$ cannot have three equal roots.

12. Show that the equation

$$x^7 - 2x^4 + x^3 - 1 = 0$$ has at least four imaginary roots.

13. Remove the second term and solve the equation:

$$x^3 - 18x^2 + 157x - 510 = 0$$

14. Resolve $2x^2 - 21xy - 11y^2 - x + 34y - 3$ into factors of the first degree.

ENGLISH GRAMMAR.

THURSDAY, SEPTEMBER 19TH:—MORNING, 9 TO 12.

Examiner,.....VEN. ARCHDEACON LEACH, D.C.L.

1. What is a Sentence?—An Imperative Sentence?—An Interrogative Sentence?

2. Give the signification of the terms:—Subject, Object, Predicate, Adverbial Phrase.

3. What are Nouns of Multitude as distinguished from Collective Nouns generally?

4. Which are the Relative Pronouns, and why are they so denominated?

5. How are Transitive and Intransitive Verbs distinguished?

6. Mention the different ways of distinguishing the gender of Nouns.

7. Give the rules for the formation of the plural of Nouns.

8. Which are the three cases in English?

9. Give examples of the Indicative, Subjunctive and Imperative Moods —and of the Participle and Gerund.

10. When the form of a Noun is plural but the meaning singular, in what number is the Verb?

11. Which are the exceptions to the rule of two Nouns or Pronouns united by "and" having the Verb in the plural?

12. When the words "Either" or "Neither" precede Pronouns of different persons, and of the singular number, in what person is the Verb connected with them to be put?

CHEMISTRY.

FRIDAY, SEPTEMBER 20TH:—AFTERNOON, 2 TO 5.

Examiner, ...B. J. HARRINGTON, B.A., Ph.D.

1. Classify the more important metals according to atomicity.

2. By what tests may the metals of the Alkaline Earths be distinguished from one another when in solution?

3. What are the principal salts of Potassium, and what their more important uses in the arts?

4. Describe the preparation of the substances indicated by the following formulæ:

$$Al\,K\,(S\,O_4)_2,\ 12\,H_2\,O\ ;\ Pb\,C\,O_3,\ Hg\,Cl_2,\ Pt\,Cl_4$$

5. What are the properties and principal uses of the metals Bismuth and Antimony?

6. By what tests may Zinc, Tin, Silver, and Gold be detected when in solution?

7. What are the principal chemical changes involved in the smelting of Iron ores in the blast furnace, and what the chief differences between grey and white Cast Iron?

8. Explain the following equations:

$$2\,Fe\,Cl_3 + H_2O + H_2S\,O_3 = 2\,Fe\,Cl_2 + 2\,H\,Cl + H_2S\,O_4.$$
$$As_2O_3 + 2\,K\,H\,O = 2\,K\,As\,O_2 + H_2O.$$

9. What are the chemical formulæ for Epsom Salts, Glauber's Salt, Blue Vitriol, Calomel, and Gypsum?

10. Point out the principal characteristics of alloys, and describe the more important alloys of Copper.

SCIENCE SCHOLARSHIPS.

NATURAL SCIENCE.

BOTANY (*First Paper*).

Examiner, ... J. W. DAWSON, LL.D., F.R.S.

1. Explain fully the Histology of Epidermis, Raphides, Bart.

2. Explain the growth of the Cambrian layer.

3. Describe the parts of the mature Pericarp, with examples.

4. Describe the structure and precise functions of the Parenchyma of the Leaf.

5. Define accurately the terms, Placenta, Æstivation, Dehiscence.

6. Describe the processes of cell-multiplication.

7. State the distinctive characters of Filices, Lycopodiaceæ and Equisetaceæ.

8. Describe the Ovule, and state the changes it undergoes in fertilisation and ripening.

9. Describe the changes succeeding fertilisation, and the structure of the ripened seed.

10. In what respects do gymnosperms resemble angiosperms and in what cryptogams?

11. How does heart-wood of Exogens differ from Alburnum?

BOTANY (*Second Paper*).

1. Give the characters of the tribes of North American *Ranunculaceæ*, with examples of the genera.

2. What are the principal generic forms of *Araceæ*, *Papavereceæ*, *Rosaceæ*, and *Smilaceæ* in Canada?

3. Explain fully the distinctive characters of *Gramineæ* and *Cyperaceæ*.

4. Give a detailed account of any of the orders of Monopetalous Exogens, with the Canadian genera and species.

5. Characterize any Canadian order not mentioned, with its leading genera.

6. Give the history, habits, and properties of any Canadian Parasitic Plant.

7. State the peculiarities of the floral organs in *Betulaceæ*, *Cruciferæ*, and *Violaceæ*.

8. Describe any Canadian order containing Edible Fruits, with its most important species.

9. State the distinctions between the genera of Canadian *Polypodineæ*.

BOTANY (*Third Paper.*)

Examination in determination of specimens of Canadian Plants.

CHEMISTRY.

FRIDAY, SEPTEMBER 20TH :—AFTERNOON, 2 TO 5.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. Describe the square prismatic, the oblique prismatic, and the hexagonal systems of crystallization.

2. State and explain the Atomic Theory of Dalton and the Law of Ampère.

3. What are the best tests for the detection of Nitric Acid, Chlorine, and Orthophosphoric Acid?

4. What are the general formulæ of the Olefine and Paraffin series? Describe the preparation and properties of the first member of the latter series.

5. How is Iodine prepared, and what are its properties? Point out the analogies existing between the members of the group of elements to which it belongs.

6. Describe the preparation of Phosphorus from bones, giving equations indicating the chemical changes which take place.

7. Give the properties of the metal Mercury, and examples of the two series of salts which it forms.

8. Give tests for the detection of Nickel, Cobalt, Copper, Arsenic and Bismuth.

9. Describe the substances indicated by the following formulæ, pointing out their principal uses:

$$Sr(NO_3)_2,\ BaSO_4;\ ZnSO_4,7H_2O;\ HgS,\ SnCl_2.$$

10. What changes are indicated by the following equations:

$$2KMnO_4 + 5H_2SO_3 = K_2SO_4 + 2MnSO_4 + 2H_2SO_4 + 3H_2O$$
$$4FeCl_3 + 2H_2S = 4FeCl_2 + 4HCl + S_2.$$

LOGIC.

THURSDAY, SEPTEMBER 19TH:—AFTERNOON, 2 TO 5.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Define (*a*) Term, (*b*) Proposition, (*c*) Syllogism, giving an example of each.

2. Distinguish (*a*) Singular and Common, (*b*) Concrete and Abstract, (*c*) Connotative and Inconnotative Terms, giving an example of each class.

3. What is meant by the Quantity, what, by the Quality, of a Proposition?

4. Explain the symbols:—A, E, I, O.

5. Distinguish the different kinds of Conversion, illustrating by an example of each

6. Give the several Opposites of the Propositions:—(*a*) All men are imperfect; (*b*) Some men are wise.

7. Define (*a*) the Mood, (*b*) the Figure of a Syllogism.

8. (*a*) How many Moods are numerically possible? (*b*) How many of these are logically legitimate?

9. Prove from the General Canons that I E O is illegitimate.

10. Why must there be always one term more distributed in the premises than in the conclusion?

11. Explain the only legitimate modes of reasoning (*a*) in Conditional, (*b*) in Disjunctive Syllogisms.

12. Define a Sorites.

13. Explain how a Sorites is analysed into its component Syllogisms, illustrating by the formula:—A is B, B is C, C is D, D is E; and therefore A is E.

14. Distinguish the two grand divisions of the Fallacies, and the two main subdivisions of each.

15. Explain the Fallacia Figuræ Dictionis, Petitio Principii, Fallacia Plurium Interrogationum, naming the class of Fallacies to which each belongs.

CLASSICAL AND MODERN LANGUAGE SCHOLARSHIPS.

GREEK.

TUESDAY, SEPTEMBER 17TH:—MORNING, 9 TO 12.

Examiner.....REV. GEORGE CORNISH, LL.D.

1. Translate:—(A) Euripides, Medea, vss. 908–928.

2. (*a*) Comment on the following in ext. (A):—*παρεμπολῶντος. τὴν νικῶσαν βουλήν. ὑμῖν δε, παῖδες κ. τ. λ. τὰ πρῶτ' ἐσεσθαι. γυνὴ δὲ θῆλυ.* (*b*) Explain the meaning and construction of the following:—(*a*) *εἰσῆλθε μ' οἶκτος εἰ γενήσεται τάδε.* (*b*) *οὐκ οἶδ' ἂν εἰ πείσαιμι.* (*c*) *κέλευσον αἰτεῖσθαι πατρὸς γυναῖκα παῖδας τήνδε μὴ φεύγειν χθόνα.* (*d*) *ἃ καλλιστεύεται τῶν νῦν ἐν ἀνθρώποισιν.* (*c*) Write down the scales of the *Iambic Senarius* and of the *Anapaestic Dimeter Acatalectic.*

3. Translate:—(B) Herodotus, Book VIII., chap. cxxx.

4. Comment historically or grammatically, as may be required, in explanation of the following phrases from Herod. Book VIII. (*a*)VIII. 3;—*πρόφασιν τὴν Παυσανίεω ὕβριν * * * τοὺς Λακεδαιμονίους.* (*b*) ib. 5; *πληγέντες δώροισι.* (*c*) ib. 6; *μηδὲ πυρφόρον περιγενέσθαι.* (*d*) ib. 10; *δσοισι δὲ καὶ ἡδομένοισι τὸ γινόμενον.* (*e*) ib. 21; *παλήσειε.* (*f*) ib. 23; *ἡλίῳ σκιδναμένῳ.* (*g*) ib. 41; *ὡς τῆς θεοῦ ἀπολελοιπυίης τὴν ἀκρόπολιν.*

5. Translate :—(C) Thucydides, Book I., chap. cxxxviii.

6. (*a*) *τὴν ἀξίωσιν καὶ ἐλπίδα, τὸ ἀμεινον ἢ χεῖρον* :—Note the peculiarity in the use of the Article, and explain it. (*b*) § 3 :—*ἦν γὰρ * * * δηλώσας* :—Explain the force of the periphrasis with the punctuation given. Some edd. place commas after *Θεμιστοκλῆς* and *δηλώσας* :—how is the passage then to be construed? (*c*) § 8 :—*δόντος * * ἄρτον* :—explain, and illustrate from a passage in Anab. I. (*d*) § 9 :—*ὡς ἐπὶ προδοσίᾳ* :—Explain the force of the Particle and of the Preposition.

7. Translate :—(D) Xenophon, Hellenics, I., chap. vii., §§ 20–23. *τό βάραθρον* :—explain.

8. Translate :—(E) Demosthenes, Olynthiacs, I. § 29.

9. (*a*) *τῶν πολλῶν ὢν καλῶς ποιοῦντες ἐχουσι* :—explain the construction and meaning. (*b*) *ἀκεραιον* :—explain the usage and etymology (*c*) Write short explanatory notes on :—(1) *εὔθυναι ῥᾴδιαι.* (3) *ἐν ἡλικίᾳ.* (3) *εἰσφέροντας.* (4) *ἀνεχαίτισε.* (5) *πεφενάκινεν.* (6) *λειτουργίαι.* (7) *ὦ τᾶν.* (8) *χειροήθεις.* (9) *τὰ θεωρικά.*

10. (*a*) Explain the following :—*λέγειν λόγον, ἀκούειν λόγου, ἥδεσθαι λόγῳ, μεμνῆσθαι λόγου, θητοῖσιν ἀνάσσειν, ὅπλοις χρῆσθαι.* (*b*) Distinguish between :—*οἱ σοφοὶ ἀνθρωποι, σοφοὶ οἱ ἄνθρωποι,* and *οἱ σοφοὶ τῶν ἀνθρόπων. ὁ οὐ πιστεύων* and *ὁ μὴ πιστεύων.*

11. State the connection in respect of chronology and subject-matter between Herodotus, Thucydides and Xenophon in their treatment of Grecian affairs.

LATIN.

WEDNESDAY, SEPTEMBER 18TH :—MORNING, 9 to 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate :—(A) Tacitus, Annals, Book I., chap. xxiii.

2. (*a*) Comment on the following expressions :—(1) Incendebat fletu. (2) Pedibus advolutus. (3) Qui e servitio erant. (4) Ni propere pernotuisset, hand multum aberant. (5) Cognomento Sirpicum. (*b*) In what respects do the *Annales* differ from the *Historiæ* of Tacitus? (*c*) Write a short account of the life and times of Tacitus. State what you know about the theory which has been advanced in modern times against the genuineness of the works of Tacitus.

3. Translate :—(B) Pliny, Select Letters :—

C. PLINIUS SUETONIO TRANQUILLO SUO S.

Scribis te perterritum somnio vereri ne quid adversi in actione patiaris, rogas ut dilationem petam et pauculos dies, certe proximum, excusem. Difficile est, sed experiar : *καὶ γάρ τ' ὄναρ ἐκ Διός ἐστιν.* Refert tamen, eventura soleas an contraria somniare. Mihi reputanti somnium meum, istud quod times tu egregiam actionem portendere videtur. Susceperam causam Iuni Pastoris, cum mihi quiescenti visa est socrus mea advoluta genibus ne agerem obsecrare. Et eram acturus adulescentulus adhuc, eram in quadruplici iudicio, eram contra potentissimos civitatis atque etiam Caesaris amicos ; quae singula excutere mentem mihi post tam triste somnium poterant. Egi tamen *λογισάμενος* illud

εἷς οἰωνὸς ἄριστος, ἀμύνεσθαι περὶ πάτρης.

nam mihi patria, et siquid carius patria, fides videbatur. Prospere cessit, atque adeo illa actio mihi aures hominum, illa ianuam famae patefecit. Proinde dispice, an tu quoque sub hoc exemplo somnium istud in bonum vertas : aut si tutius putas illud cautissimi cuiusque praeceptum, 'quod dubites ne feceris,' id ipsum rescribe. Ego aliquam stropham inveniam agamque causam tuam, ut istam agere tu, cum voles, possis. Est enim sane alia ratio tua, alia mea fuit. Nam iudicium centumvirale differri nullo modo, istud aegre quidem, sed tamen potest. Vale.

4. (*a*) Give an account of the person to whom the above letter is addressed. (*b*) Explain :—(1) Quadruplici judicio. (2) Judicium centumvirale. (3) Aliquam stropham. (*c*) Caesaris :—Who was he ?

5. Translate :—(C) Horace, (*a*) Satires I. ; Sat. i., vss. 61–79. (*b*) Epistles, I. ; ep. xvi., vss. 46–62.

6. (*a*) Explain the following forms in extt. (A) and (B), and explain their grammatical construction : (1) Facias *illi*. (2) Ipse *domi*. (3) *Queis*. (4) *Optarim*. (5) *Frugi*. (6) *Fabae*. (*b*) Explain the construction of :—(1) Quia tanti quantum habeas sis. (2) Congestis saccis indormis inhians. (3) Parare sacris aut pictis gaudere tabellis. (4) Miscebis sacra profanis. (5) Da justo sanctoque videri. (*c*) *Sabellus* :—What is the reference ? (*d*) *Laverna* :—Explain the reference, and give the derivation of the name.

7. Translate :—(D) Terence, Adelphi, Act iv., Sc. 7, vss. 28–44.

8. (*a*) Which is the correct form, Aedepol or Edepol ? Give reasons for your preference. Also explain the forms :—satur, sis, dis, quor, equidem, prorsus. (*b*) Construe and explain the following formulæ :—(1) Ut te magnus perdat Juppiter. (2) Pro divom fidem. (3) Ita me di ament ut video tuam ineptiam. (4) O Juppiter, hancine vitam. (*c*) A short account of the Roman Comic poets and of their Greek models.

9. Translate :—(E) Virgil, Georgics, Book I., vss. 257-275.

10. (*a*) Enumerate the minor works ascribed to Virgil. (*b*) Give the date of the composition of the Georgics. At whose instigation did Virgil write them? On what grounds have they been held to surpass his other poems in originality and artistic effect?

GREEK AND LATIN PROSE COMPOSITION.

TUESDAY, SEPTEMBER 17TH :—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

(A) Translate into Greek :—

A certain man who had heard of the victory that had been gained came running into the city to tell the good news to the citizens. He further reported that on the side of the victors only one general and three hundred light-armed and one hundred and fifty heavy-armed soldiers had fallen, whilst of the vanquished that not less than two thousand had been slain, and that the defeated generals had led away their forces by night. Having said this he went away, and after he had gone those who had listened to him took counsel on what he had reported.

(B) Translate into Latin :—

The Odyssey means the Poem of Odysseus (or, as the Romans called him, Ulysses,) who was king of the island of Ithaca, and the cleverest of all the Greek princes who fought against Troy. When Troy was taken, Odysseus and his followers sailed for Ithaca. But on their way they were driven to the land of the Cyclopes, a savage race of one-eyed giants. And here Odysseus put out the eye of the Cyclops Polyphemus, after that monster had eaten six of the hero's comrades. Now Poseidon, the god of the sea, was the father of Polyphemus; and Poseidon, in revenge, doomed Odysseus to wander far and wide over the sea to strange lands. When the Odyssey begins, it is ten years since the fall of Troy, and Odysseus is still far away from home in the island of Ogygia at the centre of the sea. For seven years the Nymph Calypso, who loves him, has detained him there against his will. Meanwhile his wife Penelope, in Ithaca, has been courted by more than a hundred suitors, lawless, violent men who feast riotously n the house of Odysseus, as if it were their own.

ANCIENT HISTORY.

WEDNESDAY, SEPTEMBER 18TH:—AFTERNOON, 2 TO 5.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. Enumerate the nations that successively in ancient times held the supremacy, previous to the time of Cyrus the Elder.

2. Give the geographical position of ancient Media, Armenia, Parthia, Syria, Chersonesus (1) Taurica, (2) Thracica, and (3) Cimbrica, with modern names where you can.

3. To what family of the human race did the Carthaginians belong? Give a general account of the national characteristics and political institutions of the Carthaginians. In what ways do you suppose the position and interests of civilised nations in Western Europe would have been affected if Carthage had conquered Rome?

4. State the leading events in the second period of the history of the Jews. Under what King did the nation reach its highest point of power and prosperity? What causes led to its decadence.

5. To which of the three great races of mankind did the Persians belong? Give an account of their system of government, and of their military conquests up to the time of the war with Greece. What was the main motive for the persistence of the Persian aggression on the Hellenic race? To what causes may the failure of this aggression be attributed?

6. (*a*) Trace briefly the growth of the leading Grecian States, naming those that in succession held the hegemony of Greece. (*b*) What events and causes led to the establishment and overthrow of the supremacy of Athens?

7. Give an account of the Law of Debt at Rome, and point out how its operation acquired political importance and led to political changes.

8. What were the true character and objects of the *Leges Agrariae?*

9. What were the causes and events that led to the Punic wars?

10. Who were the members of the *First* and *Second Triumvirates*, severally?

ENGLISH LITERATURE.

THURSDAY, SEPTEMBER 19TH :—MORNING, 9 TO 12.

Examiner, ...VEN. ARCHDEACON LEACH, D.C.L.

1. Give the dates that comprise the second period of English literature.

2. Give a particular account of the three native ecclesiastics who remained in England, and were eminent, during the period, for success in Latin studies.

3. Give a short account of the principal poetical productions in Anglo-Saxon.

4. Give the dates that comprise the third period of English literature.

5. Mention the four principal historians of the Norman times that wrote in the Latin tongue, with the substance of the critical remarks upon each.

6. Which are the historical works that first show an approach to the English tongue during the Norman times?

7. Give some account of the Romances of Chivalry.

8. Give the names of the principal poets of the fourteenth and fifteenth centuries in England and Scotland, and give a particular account of the Canterbury Tales.

9. How are the subjects of Bacon's essays designated generally?

10. Give the substance of the essay on Superstition, and mention particularly what are given as the causes of superstition.

11. What is the signification of the following terms as employed by Bacon in the essays: "ure," s.—"store," s.—"stond," s.—"lot," s.—make for," v.—"husband," v.—"dole," s.—"courages," s.—"ingrossing," s.—"mate," v.—"naught," adj.—"oes and spangs," s.—"propriety," s.—"poser," s.

12. Decline the Anglo-Saxon article.

13. Give an example of the declension of the Anglo-Saxon adjective in both forms.

14. How are the comparative and superlative degrees formed,—of adjectives and adverbs?

15. Conjugate the verbs habban and wesan.

16. Decline the personal pronouns.

17. State Trench's account of the origin of language.

18. Give an instance to show that the language of a savage tribe may indicate its state to be a state of degradation.

19. Give some examples of past customs embodied in words.

20. When and where did the following words make their first appearance:—"christian," "trinity," "catholic," "gospels," "monk," "nun." "tyrant?"

21. Show that the invention of new words is necessary.

FRENCH.

Examiner, ... PROF. MILLER.

1. Translate into French: There is this distinction between the old tragedy and the new. With the Greek, fate was the main instrument of woe and crime; so, with the Greek, there was little need of mental analysis, little need to show from what errors of his own man suffered and sinned Fate stalked across his way, or stood upon his hearth, his fell and irresistible foe. An oracle declared he should murder, a god led his steps to his doom. But, with us, guilt or woe has its source in ourselves.

Our conscience is our oracle, our deeds shape our fate. And though, in a few rare instances, modern writers have still had recourse to the iron deity of old, it is obvious that, unless the instrumentality of a power which we cannot influence and control, be most sparingly and cautiously employed, we should seem to sanction the dangerous principle that we are the passive and unconscious tools, not the active and reasoning contrivers, of the evil that conducts us to the abyss.

2. Translate into English:

Il n'est pas bien honnête, et pour beaucoup de causes,
Qu'une femme étudie et sache tant de choses.
Former aux bonnes mœurs l'esprit de ses enfants,
Faire aller son ménage, avoir l'œil sur ses gens,
Et régler la dépense avec économie,
Doit être son étude et sa philosophie.
....

Les femmes d'à présent sont bien loin de ces mœurs:
Elles veulent écrire, et devenir auteurs.
Nulle science n'est pour elles trop profonde,
Et céans beaucoup plus qu'en aucun lieu du monde:
Les secrets les plus hauts s'y laissent concevoir
Et l'on sait tout chez moi, hors ce qu'il faut savoir.
....

Mes gens à la science aspirent pour vous plaire,
Et tous ne font rien moins que ce qu'ils ont à faire.
Raisonner est l'emploi de la maison,
Et le raisonnement en bannit la raison !

Molière, les femmes savantes, II, 7.

3. State the object of Molière's comedy : Les femmes savantes, and point out the instances in which Philaminte, Armande and Bélise appear in the character of "femmes savantes."

4. Write the 2 pers. plur. Imperat. of : *faire, savoir, vouloir, croire, croître, tenir, se souvenir, dire, s'en aller.*

5 Give the rules for : *gens grossiers, certaines gens ; tout entière ; toute fière ; quel étrange amour, toutes vos amours ; feu sa mère, sa feue mère.*

6. State the difference of meaning between : *venir de* and *venir* without a preposition before an infinitive ; between *répondre à, répondre de* and *répondre pour ;* between *je veux à votre fille en parler avant vous,* and *je veux à votre fille en parler devant vous.*

7. Explain the words : *solécisme, pléonasme, cacophonie, ruisseaux des halles, sel attique, ides, calendes,* and *mines, talents.*

8. When did Malherbe and Vaugelas live? State the merits of each of them with regard to the amelioration and consolidation of the French language.

CHRISTMAS EXAMINATIONS, 1878.

CLASSICS.

FIRST YFAR.

GREEK—HOMER—ODYSSEY, BOOK XII.

TUESDAY, DECEMBER 10TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Ἤτοι ἐγὼ τὰ ἕκαστα λέγων ἐτάροισι πίφαυσκον·
τόφρα δὲ καρπαλίμως ἐξίκετο νηῦς εὐεργὴς
νῆσον Σειρήνοιιν· ἐπειγε γὰρ οὖρος ἀπήμων.
αὐτίκ' ἔπειτ' ἄνεμος μὲν ἐπαύσατο ἠδὲ γαλήνη
ἔπλετο νηνεμίη, κοίμησε δὲ κύματα δαίμων.
ἀνστάντες δ' ἑταροι νεὸς ἱστία μηρύσαντο,
καὶ τὰ μὲν ἐν νηῒ γλαφυρῇ θέσαν, οἱ δ' ἐπ' ἐρετμὰ
ἑζόμενοι λεύκαινον ὕδωρ ξεστῆς ἐλάτῃσιν.
αὐτὰρ ἐγὼ κηροῖο μέγαν τροχὸν ὀξέϊ χαλκῷ
τυτθὰ διατμήξας χερσὶ στίβαρῇσι πίεζον.
αἶψα δ' ἰαίνετο κηρὸς, ἐπεὶ κέλετο μεγάλη ἰς
Ἠελίου τ' αὐγὴ Ὑπεριονίδαο ἄνακτος·
ἐξείης δ' ἐτάροισιν ἐπ' οὔατα πᾶσιν ἄλειψα.
οἱ δ' ἐν νηῒ μ' ἔδησαν ὁμοῦ χεῖράς τε πόδας τε
ὀρθὸν ἐν ἱστοπέδῃ, ἔκ δ' αὐτοῦ πείρατ' ἀνῆπτον·
αὐτοὶ δ' ἑζόμενοι πολιὴν ἅλα τύπτον ἐρετμοῖς.

B) Ἀλλ' ὅτε δὴ τὴν νῆσον ἐλείπομεν, οὐδέ τις ἄλλη
φαίνετο γαιάων, ἀλλ' οὐρανὸς ἠδὲ θάλασσα,
δὴ τότε κυανέην νεφέλην ἔστησε Κρονίων
νηὸς ὕπερ γλαφυρῆς, ἤχλυσε δὲ πόντος ὑπ' αὐτῆς.
ἡ δ' ἔθει οὐ μάλα πολλὸν ἐπὶ χρόνον· αἶψα γὰρ ἦλθεν
κεκληγὼς Ζέφυρος, μεγάλῃ σὺν λαίλαπι θύων,
ἰστοῦ δὲ προτόνους ἔρρηξ' ἀνέμοιο θύελλα
ἀμφοτέρους· ἱστὸς δ ὀπίσω πέσεν, ὅπλα τε πάντα
εἰς ἄντλον κατέχυνθ'· ὁ δ' ἄρα πρύμνῃ ἐνὶ νηῒ
πλῆξε κυβερνήτεω κεφαλὴν, σὺν δ' ὀστέ' ἄραξεν

πάντ' ἄμυδις κεφαλῆς· ὁ δ' ἂρ' ἀρνευτῆρι ἐοικὼς
κάππεσ' ἀπ' ἰκριόφιν, λίπε δ' ὀστέα θυμὸς ἀγήνωρ.
Ζεὺς δ' ἄμυδις βρόντησε καὶ ἔμβαλε νηῒ κεραυνόν,
ἡ δ' ἐλελίχθη πᾶσα Διὸς πληγεῖσα τεραυνῷ,
ἐν δὲ θεείου πλῆτο· πέσον δ' ἐκ νηὸς ἑταῖροι.
οἱ δὲ κορώνησιν ἴκελοι περὶ νῆα μέλαιναν
κύμασιν ἐμφορέοντο, θεὸς δ' ἀποαίνυτο νόστον.

2. (*a*) Point out the *Epic* forms that occur in the above extt., and give their equivalents in the Attic dialect. (*b*) Note also the words that had the *Digamma*, and adduce cognate forms in Latin. (*c*) Note peculiarities in the following vs. :—

ἐπίτονος βέβλητο βοὸς ῥινοῖο τετευχώς.

3. Explain the following terms descriptive of parts of the Homeric ship :—*τρόπις, ἴκρια, ζυγά, ἄντλος, ἱστός, ἱστοδόκη, ἱστίον, πόδες, ἐπίτονος, πρότονοι.*

4. (*a*) Comment on the use of the moods in the following extt., and point out the difference in meaning between them :—(1) *ἵνα εἰδότες ἢ κε θάνωμεν ἢ κεν ἀλευάμενοι θάνατον καὶ κῆρα φύγοιμεν.* (2) *ἢ περ ἂν ὑμεῖς νῆα παρὰ γλαφυρὴν ἰθύνετε.* (3) *ἀλλ' ἄγετ' * * * ῥέξομεν ἀθανάτοισι.* (*b*) Distinguish between the following usages with the verb *ἀκούω* :—*μηκυθμοῦ τ' ἤκουσα βοῶν οἰῶν τε βληχήν.* Distinguish between *πέρι τοι μένος* and *περί τοι μένος.* (*c*) Give the force of the prepositions in the compounds *ὑπεκπροφύγοιμι* and *ὑπεκφυγέειν.*

5. Parse the following words :—*πλῆτο, ἀποτέθνασαν, ἀη, εἶσε, προσέλεκτο, λίπεν, ῥηγμῖνι, προΐειν, ἐκάη, κρέα, φαινομένηφι, δησάντων.*

6. Give as carefully as you can the *derivation* and *meaning* of the following words, with cognate forms in Latin or English :—*ῥηγμῖνι, σχέτλιοι, διηνεκέως, ἐπηρεφέες, λίς, αἰζήιος, νηνεμίη, ἐρίηρες, εἴδατα, βληχήν, ἀργῆτι, διακτόρου.*

7. Parse the following, and write down the *Nom. Sing.* of each :—*δοῦρα, ῥινοῖο, τρόπιος, τέραα, ᾖσιν, δρυός, ἁλός, σπῆι, οὐατα, μῆνα.*

8. (*a*) Define and illustrate by examples, what is meant by *Tmesis, Anastrophe, Arsis, Thesis.* (*b*) Name the metre of the Odyssey and write down the scale. (*c*) Scan the first three vss. of ext. (A).

9. State the difference in meaning between :—(1) *οὐδείς* and *μηδείς.* (2) *αὐτὸς* and *ὁ αὐτός.* (3) *ὅδε, οὗτος* and *ἐκεῖνος.* (4) *ὁ ἀγαθὸς ἀνὴρ* and *ἀγαθὸς ὁ ἀνήρ.* (5) *τὸ καλὸν* and *τὰ καλά.* (6) *μὴ κλέπτε* and *μὴ κλέψῃς.*

10. (*a*) Enumerate the Tense-stems, and say what tenses are formed formed from each. (*b*) In what tense is the true stem to be found? (*c*) Point out the true stems of :—*τάσσω, φράζω, πίπτω, τύπτω, ἕζομαι.*

SECOND YEAR.

GREEK.—EURIPIDES.—MEDEA.

TUESDAY, DECEMBER 10TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D

1. Translate:—

(A) Ἐρεχθεΐδαι τὸ παλαιὸν ὄλβιοι,
καὶ θεῶν παῖδες μακάρων, ἱερᾶς
χώρας ἀπορθήτου τ' ἀποφερβόμενοι
κλεινοτάταν σοφίαν, ἀεὶ διὰ λαμπροτάτου
βαίνοντες ἁβρῶς αἰθέρος, ἔνθα ποθ' ἁγνὰς
ἐννέα Πιερίδας Μούσας λέγουσι
ξανθὰν Ἁρμονίαν φυτεῦσαι·
τοῦ καλλινάου τ' ἀπὸ Κηφισοῦ ῥοὰς
τὰν Κύπριν κλήζουσιν ἀφυσσαμέναν
χώραν καταπνεῦσαι μετρίας ἀνέμων
ἡδυπνόους αὔρας·. ἀεὶ δ' ἐπιβαλλομέναν
χαίταισιν εὐώδη ῥοδέων πλόκον ἀνθέων
τᾷ σοφίᾳ παρέροδυς πέμπειν ἔρωτας,
παντοίας ἀρετᾶς ξυνέργους.

(B) (Give as accurately as you can the import of the particles in this ext.)

ΑΙ. Τί γὰρ σὸν ὄμμα χρώς τε συντέτηχ' ὅδε;
ΜΗ. Αἰγεῦ, κάκιστος ἐστι μοι πάντων πόσις.
ΑΙ. τί φῄς; σαφῶς μοι σὰς φράσον δυσθυμίας.
ΜΗ. ἀδικεῖ μ' Ἰάσων οὐδὲν ἐξ ἐμοῦ παθών·
ΑΙ. τί χρῆμα δράσας; φράζε μοι σαφέστερον.
ΜΗ. γυναῖκ' ἐφ' ἡμῖν δεσπότιν δόμων ἔχει.
ΑΙ. ἦ γὰρ τετόλμηκ' ἔργον αἴσχιστον τόδε;
ΜΗ. σάφ' ἴσθ'· ἄτιμοι δ' ἐσμὲν οἱ πρὸ τοῦ φίλοι.
ΑΙ. πότερον ἐρασθεὶς ἢ σὸν ἐχθαίρων λέχος;
ΜΗ. μέγαν γ' ἔρωτα· πιστὸς οὐκ ἐφ' φίλοις.
ΑΙ. ἴτω νυν, εἴπερ ὡς λέγεις ἐστὶν κακός.
ΜΗ. ἀνδρῶν τυράννων κῆδος ἡράσθη λαβεῖν.
ΑΙ. δίδωσι δ' αὐτῷ τίς; πέραινέ μοι λόγον.
ΜΗ. Κρέων, ὃς ἄρχει τῆσδε γῆς Κορινθίας
ΑΙ. ξυγγνωστὰ μὲν γὰρ ἦν σε λυπεῖσθαι, γύναι.
ΜΗ. ὀλωλα· καὶ πρός γ' ἐξελαύνομαι χθονός.
ΑΙ. πρὸς τοῦ; τόδ' ἄλλο καινὸν αὖ λέγεις κακόν.
ΜΗ. Κρέων μ' ἐλαύνει φυγάδα γῆς Κορινθίας.
ΑΙ. ἐᾷ δ' Ἰάσων; οὐδὲ ταῦτ' ἐπῄνεσα.

(C) Τί προσγελᾶτε τὸν πανύστατον γέλων;
αἰαῖ· τί δράσω; καρδία γὰρ οἴχεται,
γυναῖκες, ὄμμα φαιδρὸν ὡς εἶδον τέκνων.
οὐκ ἂν δυναίμην· χαιρέτω βουλεύματα
τὰ πρόσθεν· ἄξω παῖδας ἐκ γαίας ἐμούς.
τί δεῖ με πατέρα τῶνδε τοῖς τούτων κακοῖς
λυποῦσαν αὐτὴν δὶς τόσα κτᾶσθαι κακά;
οὐ δῆτ' ἐγωγε. χαιρέτω βουλεύματα.
καίτοι τί πάσχω; βούλομαι γέλωτ' ὀφλεῖν
ἐχθροὺς μεθεῖσα τοὺς ἐμοὺς ἀζημίους;
τολμητέον τάδ'. ἀλλὰ τῆς ἐμῆς κάκης,
τὸ καὶ προέσθαι μαλθακοὺς λόγους φρενός.
χωρεῖτε, παῖδες, ἐς δόμους· ὅτῳ δὲ μὴ
θέμις παρεῖναι τοῖς ἐμοῖσι θύμασιν,
αὐτῷ μελήσει· χεῖρα δ' οὐ διαφθερῶ.

2. (*a*) Comment on and explain the following expressions:—(1) *ἀποφερβόμενοι κλεινοτάταν σοφίαν.* (2) *ἐννέα Μούσαι * * Ἁρμονίαν φυτεῦσαι.* (3) *οὐ δυνάσει τέγξαι χέρα φοινίαν τλάμονι—ἐν τλάμονι—εὐτλάμονι—θυμῷ.* (*b*) Note the Doric forms in ext. (A) and write down Attic equivalents. (*c*) In vs. 12, ext. (C), the common reading is *φρενί*:—distinguish between the two as to the meaning and construction of the verse, and defend that here adopted.

3. Translate, with such short explanatory notes as you think requisite, the following:—(1) *χεῖρα οὐ διαφθερῶ.* (2) *γέλωτ' ὀφλεῖν.* (3) *κάτει τοι καὶ σὺ πρὸς τέκνων ἔτι.* (4) *γῆμαί με λέκτρα βασιλέως.* (5) *μῶν γαμοῦσα καὶ προδοῦσά σε;* (6) *οἶμαι γὰρ ὑμᾶς τὰ πρῶτ' ἔσεσθαι.* (7) *ἐκ τοῦδ' ἀναψόμεσθα πρυμνήτην κάλων.* (8) *ἀκροισι λαίφους κρασπέδοις ὑπεκδραμεῖν.*

4. Explain carefully the use of the *oblique cases* in:—(*a*) *ἀλλὰ τῆς ἐμῆς κάκης.* (*b*) *πρὶν σφῷν ὀνασθαι.* (*c*) *δυστάλαινα τῆς ἐμῆς αὐθαδίας.* (*d*) *εἴπερ γὰρ ἡμᾶς ἀξιοῖ λόγου τινὸς γυνή, προθήσει χρημάτων.* (*e*) *εὐνῆς ἀζυγες γαμηλίου.* (*f*) *ξυμβάλλεται δὲ πολλὰ τοῦδε δείματος.*

5. Parse the following words:—*ὀφλεῖν, ἀνασχεθεῖν, μεθεῖς, πεσεῖν, ἡπατος, κέκρανται, ἄζυγες, ἀναλοῖς, σφ', ἐλᾶν, τεύξει, ἀνέπτα.*

6. Give the meaning and derivation of:—*ἀμβρόσιος, λῷον, ἀλάστορας, ἀρτίδακρυς, φροῦδος, θεσπιῳδόν, ξύμβολα, ζηλωτόν, ἄβρῶς, ἑκατι, στόμαργον, δυσίατος.*

7. State, with examples, the substance of the remarks of Dawes, Elmsley and Jelf as to the use of lhe particles *οὐ μὴ* with the *Fut. Ind.* and *Aor. Subj.*, respectively.

8. Explain the processes called *Elision*, *Aphaeresis*, *Synizesis* and *Crasis*, and give examples. (*b*) πρὸς ἡδονὴν λόγους. ἐμαυτῇ διὰ λόγων ἀφικόμην. πρὸς γῆρας οὐκ εὐδοξον. μὴ πρὸς ἰσχύος χάριν :—Explain the import of the prepositions.

9. Write down the scheme (1) of the Iambic Trimeter Acatalectic, of the Tragedians; and, (2) of the Anapaestic Dimeter Acatalectic, indicating the isochronous feet. Scan the last four verses of ext. (C).

10. Name the parts into which a Greek Drama was divided.

THIRD YFAR.

GREEK.—ÆSCHYLUS.—PROMETHEUS VINCTUS.

TUESDAY, DECEMBER 17TH:—MORNING, 9 TO 12.

Examiner.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A)

ΗΦ. καὶ δὴ πρόχειρα ψάλια δέρκεσθαι πάρα.
ΚΡ. λαβών νιν ἀμφὶ χερσὶν ἐγκρατεῖ σθένει
ῥαιστῆρι θεῖνε, πασσάλευε πρὸς πέτραις.
ΗΦ. περαίνεται δὴ κοὐ ματᾷ τοὔργον τόδε.
ΚΡ. ἄρασσε μᾶλλον, σφίγγε, μηδαμῇ χάλα.
δεινὸς γὰρ εὑρεῖν κἀξ ἀμηχάνων πόρους.
ΗΦ. ἄραρεν ἤδη γ' ὠλένη δυσεκλύτως.
ΚΡ. καὶ τήνδε νῦν πόρπασον ἀσφαλῶς, ἵνα
μάθῃ σοφιστὴς ὢν Διὸς νωθέστερος.
ΗΦ. πλὴν τοῦδ' ἂν οὐδεὶς ἐνδίκως μέμψαιτό μοι.
ΚΡ. ἀδαμαντίνου νῦν σφηνὸς αὐθάδη γνάθον
στέρνων διαμπὰξ πασσάλευ' ἐρρωμένως.
ΗΦ. αἰαῖ, Προμηθεῦ, σῶν ὕπερ στένω πόνων.
ΚΡ. σὺ δ' αὖ κατοκνεῖς τῶν Διὸς τ' ἐχθρῶν ὕπερ
στένειν; ὅπως μὴ σαυτὸν οἰκτιεῖς ποτέ.
ΗΦ. ὁρᾷς θέαμα δυσθέατον ὄμμασιν.
ΚΡ. ὁρῶ κυροῦντα τόνδε τῶν ἐπαξίων.
ἀλλ' ἀμφὶ πλευραῖς μασχαλιστῆρας βάλε.
ΗΦ. δρᾶν ταῦτ' ἀνάγκη, μηδὲν ἐγκέλευ' ἄγαν.
ΚΡ. ἦ μὴν κελεύσω κἀπιθωύξω γε πρός.

(B)

ΙΩ. μήτοι με κρύψῃς τοῦθ' ὅπερ μέλλω παθεῖν.
ΠΡ. ἀλλ' οὐ μεγαίρω τοῦδέ σοι δωρήματος.
ΙΩ. τί δῆτα μέλλεις μὴ οὐ γεγωνίσκειν τὸ πᾶν;
ΠΡ. φθόνος μὲν οὐδείς, σὰς δ' ὀκνῶ θρᾶξαι φρένας.

ΙΩ. μή μοῦ προκήδου μᾶσσον ὡς ἐμοὶ γλυκύ.
ΠΡ. ἐπεὶ προθυμεῖ, χρὴ λέγειν· ἄκουε δή.
ΧΟ. μήπω γε· μοῖραν δ' ἡδονῆς κἀμοὶ πόρε.
τὴν τῆσδε πρῶτον ἱστορήσωμεν νόσον,
αὐτῆς λεγοῦσης τὰς πολυφθόρους τύχας·
τὰ λοιπὰ δ' ἄθλων σοῦ διδαχθήτω πάρα.
ΠΡ. σὸν ἔργον, Ἰοῖ, ταῖσδ' ὑπουργῆσαι χάριν,
ἄλλως τε πάντως καὶ κασιγνήταις πατρός.
ὡς τἀποκλαῦσαι κἀποδύρασθαι τύχας
ἐνταῦθ', ὅπη μέλλοι τις οἴσεσθαι δάκρυ
πρὸς τῶν κλύοντων, ἀξίαν τριβὴν ἔχει.

(C) ΠΡ. εἰ γάρ μ' ὑπὸ γῆν νέρθεν τ' Ἀΐδου
τοῦ νεκροδέγμονος εἰς ἀπέραντον
Τάρταρον ἧκεν,
δεσμοῖς ἀλύτοις ἀγρίοις πελάσας,
ὡς μήτε θεὸς μήτε τις ἄλλος
τοῖσδ' ἐπεγήθει.
νῦν δ' αἰθέριον κίνυγμ' ὁ τάλας
ἐχθροῖς ἐπίχαρτα πέπονθα.
ΧΟ. τίς ὧδε τλησικάρδιος
θεῶν, ὅτῳ τάδ' ἐπιχαρῆ;
τίς οὐ ξυνασχαλᾷ κακοῖς
τεοῖσι, δίχα γε Διός; ὁ δ' ἐπικότως ἀεὶ
θέμενος ἄγναμπτον νόον,
δάμναται οὐρανίαν
γένναν· οὐδὲ λήξει, πρὶν ἂν ἢ κορέσῃ κέαρ, ἢ παλάμᾳ τινὶ
τὰν δυσάλωτον ἕλῃ τις ἀρχαν.

2. (*a*) Give an outline of the Plot of this drama, with the names of the Dramatis Personæ. (*b*) Cite the passage in this play which is supposed to fix the date of its representation. (*c*) The Prometh. Vinct. formed one of a series of Dramas on the story of Prometheus; —name and explain the subjects of the others. By what term was such a series designated?

3. (*a*) Point out the leading characteristics of—(1) the poetry;—(2) the style; and (3) the language of Æschylus. (*b*) What improvements in the composition and representation of Tragedy were effected by him? (*c*) How was the person of Prometheus represented in this play?

4. Explain the syntax of the following:—(*a*) *ἄτερ γνώμης τὸ πὰν ἐπρασσον.* (*b*) *ἀλλ' ὧν δέδωκ' εὔνοιαν ἐξηγούμενος.* (*c*) *ὅπως μὴ σαυτὸν οἰκτιεῖς ποτέ.* (*d*) *ὡς μήτε θεὸς μήτε τις ἄλλος τοῖσδ' ἐπεγήθει.* (*e*) *οὐ*

μεγαίρω τοῦδε σοι δωρήματος. (*f*) *σφῷν μὲν ἐντολὴ Διὸς ἐχει τέλος.* (*g*) *μή μου προκήδου μᾶσσον ὡς ἐμοὶ γλυκύ.*

5. Write explanatory notes on:—(1) *τύχαι Ἄτλαντος.* (2) *Τυφῶνα θοῦρον.* (3) *ἰπούμενος.* (4) *ἀχαρις χάρις.* (5) *ἐξωμμάτωσα.* (6) *ἐς τε Πυθὼ κἀπὶ Δωδωνης.* (7) *ἀκοιμήτῳ ῥεύματι.* (8) *Σκύθην οἶμον.* (9) *ναρ—θηκοπλήρωτον.* (10) *ἀπέδιλος.*

6. Parse the following:—*σχεθεῖν, ἄραρεν, μεθῶμεν, ἦσαν, ἀφῖξαι, προσῆξε, ἐπηύρου, ἐφεῖτο, παρεστώτων, σαφηνιῶ, λέλακε.*

7. (*a*) Write down the Attic for the following:—*τύχας οὐλομένας, τάν, τᾶν, παγαῖς, ἐκτακείη, τᾶς, ἀχώ, προσέβα.* (*b*) Write explanatory notes on the following forms:—*μᾶσσον, θράξαι, πωλεύμεναι, ἰότατι ἀήσυροι, ἀλιγκιοι, προυσελούμενον, πεδαρσίοις, πέδοι, ἁρμοῖ.*

8. State as accurately as you can, the meaning, and give the derivation of the following words:—*λεωργόν, διαμπάξ, διατόρους, νηλής, σφίγγε, ἀπαντλῆσαι, ἀφεγγής, ἀρθμόν, παράορος, ἁπλάτου, ἐπηβόλους, προσείλους.*

9. (*a*) Mention the different significations of *a* in composition. (*b*) When is the *Nom.* used with the Infinitive instead of the *Acc.*? '*Οὐκ αὐτὸς ἔφη ἀλλ' ἐκεῖνον στρατῆγειν*':—express this in Latin. (*c*) Contract and accentuate:—*ξάουσι, κάλεε, τολμάειν, ἐπολέμοον. δουλοοίτην.*

FIRST YEAR.

LATIN.—VIRGIL.—ÆNEID, BOOK VI.

WEDNESDAY, DECEMBER 11TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Principio pinguem taedis et robore secto
Ingentem struxere pyram, cui frondibus atris
Intexunt latera, et feralis ante cupressos
Constituunt, decorantque super fulgentibus armis.
Pars calidos latices et aena undantia flammis
Expediunt, corpusque lavant frigentis et unguunt.
Fit gemitus. Tum membra toro defleta reponunt,
Purpureasque super vestes, velamina nota,
Coniiciunt. Pars ingenti subiere feretro,
Triste ministerium, et subiectam more parentum

Aversi tenuere facem. Congesta cremantur
Turea dona, dapes, fuso crateres olivo.
Postquam conlapsi cineres et flamma quievit,
Reliquias vino et bibulam lavere favillam,
Ossaque lecta cado texit Corynaeus aeno.
Idem ter socios pura circumtulit unda,
Spargens rore levi et ramo felicis olivae,
Lustravitque viros, dixitque novissima verba.

(B) Conspicit, ecce, alios dextra laevaque per herbam
Vescentis laetumque choro Paeana canentis
Inter odoratum lauri nemus, unde superne
Plurimus Eridani per silvam volvitur amnis.
Hic manus ob patriam pugnando uolnera passi,
Quique sacerdotes casti, dum vita manebat,
Quique pii vates et Phoebo digna locuti,
Inventas aut qui vitam excoluere per artis,
Quique sui memores alios fecere merendo;
Omnibus his nivea cinguntur tempora vitta.

(C) Nunc age, Dardaniam prolem quæ deinde sequatur
gloria, qui maneant Itala de gente nepotes,
illustres animas, nostrumque in nomen ituras,
expediam dictis, et te tua fata docebo.
Ille, vides, pura iuvenis qui nititur hasta,
proxima sorte tenet lucis loca, primus ad auras
aetherias Italo commixtus sanguine surget,
Silvius, Albanum nomen, tua postuma proles:
quem tibi longaevo serum Lavinia coniunx
educet silvis regem, regumque parentem:
unde genus Longa nostrum dominabitur Alba.

2. Explain the use of the Ablative in the following expressions, severally:—(1) Robore secto. (2) Fuso olivo. (3) Pura unda. (4) Dextra laevaque. (5) Pura hasta. (6) Acheronte refuso. (7) Te ponto incolumem. (8) Excussa magistro.

3. Name the cases of the words in Italics, with a translation of the ext., and state the grounds of your interpretation in each instance:—(*a*) *Praepetibus pennis* ausus se credere *caelo*. (*b*) Non indebita posco regna *meis fatis*. (*c*.) Et pater ipse suo *superum* jam signat honore. (*d*) Inter saxa virum *spumosa* immerserat unda. (*e*) Obloquitur *numeris* septem discrimina vocum. (*f*) Sortem *animi* miseratus iniquam.

4. Give the grammatical construction of:—

(*a*) Manibus date lilia plenis
Purpureos spargam flores animamque nepotis
His saltem adcumulem donis et fungar inani
Munere.

(*b*) Ter socios pura circumtulit unda. (*c*) Manus ob patriam volnera passi. (*d*) Animi miseratus. (*e*) Cernere erat.

5. (*a*) Parse (giving the first Sing. Present, Perfect and Future Indicative, of each,) the following verbs:—procubuisti, venere, fare, praeterlabere, fungar, cucurrit, prendimus, oraveris, decerpserit, figit, texit. (*b*) Write the *Present Infinitive* of the following:—miserate, fuso, defuncta, repostos, excussa, adorti, lapsura, districti.

6. Write explanatory notes on:—(1) *fixit* leges atque *refixit*. (2) cum *tumulum* praeterlabere *recentem*. (3) *spoliis opimis*. (4) mater *turrita*. (5) tua *postuma* proles. (6) *Phlegyas* miserrimus omnis admonet. (7) gaudet *cognomine terra—terrae*. (8) *Marpesia* cautes.

7. (*a*) Show the component parts of the following words, and give their meaning:—seclusum, securos, sublimis, hactenus, inmanis, ambages, adversus, cognomine, exsomnis, incana. (*b*) Note words in English either *cognate* with or *derived* from any of the above.

8. (*a*) Cite instances of (1) archaic grammatical forms; and (2) of imitations of Greek expressions and constructions, in Virgil. (*b*) Name the metre, and write down the scale of it, used by Virgil. (*c*) Scan the following vss., noting any peculiarities of form or expression:—

Bis patriae cecidere manus. Quin protinus omnia.
Inde ubi venere ad fauces graveolentis averni.
Illae autem, paribus quasfulgere cernis in armis.'
Projice teta manu, sanguis meus.

9. Distinguish between:—Alter and alius; quis and uter; nostrum and nostri; hic, ille, iste, is, and se; litera and literae; oblītus and oblĭtus; bis terque and bis terve; mānent and mănent; nītens and and nĭtens; dūcis and dŭcis; rēfert and rĕfert; venīmus and venĭmus.

10. Show the construction of:—rēfert, *miseret, licet, moneo, adimo, utor*, severally, illustrating by examples.

SECOND YEAR.

LATIN.—HORACE.—EPISTLES, BOOK II. AND ARS POETICA.

WEDNESDAY, DECEMBER 11TH:—MORNING, 9 to 12.

Examiner,.....REV. GEORGE CORNISH, LL D

1. Translate:—

(A) Romæ dulce diu fuit et solenne, reclusa
Mane domo vigilare, clienti promere jura,
Cautos nominibus rectis expendere nummos,
Majores audire, minori dicere per quæ
Crescere res posset, minui damnosa libido.
Mutavit mentem populus levis, et calet uno
Scribendi studio; puerique patresque severi
Fronde comas vincti coenant, et carmina dictant.
Ipse ego, qui nullos me affirmo scribere versus,
Invenior Parthis mendacior; et prius orto
Sole vigil, calamum et chartas et scrinia posco.

(B) Frater erat Romae consulti rhetor, ut alter
Alterius sermone meros audiret honores,
Gracchus ut hic illi, foret huic ut Mucius ille.
Qui minus argutos vexat furor iste poëtas?
Carmina compono, hic elegos. "Mirabile visu
Caelatumque novem Musis opus!" Adspice primum,
Quanto cum fastu, quanto molimine circum-
Spectemus vacuam Romanis vatibus aedem;
Mox etiam, si forte vacas, sequere et procul audi,
Quid ferat et quare sibi nectat uterque coronam.
Caedimur et totidem plagis consumimus hostem
Lento Samnites ad lumina prima duello.
Discedo Alcaeus puncto illius; ille meo quis?
Quis nisi Callimachus? Si plus adposcere visus,
Fit Mimnermus et optivo cognomine crescit.

(C) Ætatis cujusque notandi sunt tibi mores,
Mobilibusque decor naturis dandus et annis.
Reddere qui voces jam scit puer et pede certo
Signat humum, gestit paribus colludere, et iram
Colligit ac ponit temere, et mutatur in horas.
Imberbis juvenis, tandem custode remoto,
Gaudet equis canibusque et aprici gramine campi;
Cereus in vitium flecti, monitoribus asper,
Utilium tardus provisor, prodigus æris,
Sublimis cupidusque et amata relinquere pernix.
Conversis studiis, ætas animusque virilis
Quærit opes et amicitias, inservit honori,
Commisisse cavet quod mox mutare laboret.

2. Explain the meaning of the following:—

(*a*) Libitina sacravit. (*b*) Somnia Pythagorea. (*c*) Saliare carmen. (*d*) Fescennina licentia. (*e*) Numerus Saturnius. (*f*) Rettulit acceptos Philippos. (*g*) Festis Quinquatribus. (*h*) Tribus Anticyris.

3. Write short biographical or historical notes on:—(*a*) Sosii. (*b*) Ramnes. (*c*)Thespis. (*d*) Accius. (*e*) Plagosum Orbilium. (*f*) Democritus. (*g*) Gravis Æsopus. (*h*) Doctus Roscius.

4. Explain the meaning of the following literary references:—(*a*) Speciosa locis morataque recte fabula. (*b*) In vitium libertas excidit. (*c*) Vel qui praetextas vel qui docuere togatas. (*d*) Personae pallaeque repertor Æschylus. (*e*) Dominantia nomina verbaque. (*f*) Nec quarta loqui persona laboret. (*g*) Scriptor cyclicus. (*h*) Exiguos elegos.

5. Explain the grammatical construction of:—(*a*) Scire velim chartis pretium quotus arroget annus. (*b*) Cautos nominibus rectis expendere nummos. (*c*) Fronde comas vincti. (*d*) Ignarus navis. (*e*) Verna ministeriis ad nutus aptus heriles. (*f*) Sunt qui non habeant, est qui non curat habere. (*g*) Ut silvae foliis pronos mutantur in annos, prima cadunt.

6. Give as accurately as you can the etymology and meaning of the following words, noting cognate forms, if any, in Greek or English:—Fautor, trutina, fastos, plagosum, obscoenis, prudens, vehemens, caelatum, munia, temeti, dumtaxat, ampullas.

7. Instance archaic forms and *ἅπαξ λεγόμενα* used by Horace.

8. Translate into Latin:—

The Consul, P. Dolabella, had already left Rome with his army, and was on his march into Etruria, when he received the tidings of this outrage. Immediately he resolved on vengeance, and instead of advancing into Etruria he turned to the right, marched through the country of the Sabines into Picenum, and from thence led his army into the territory of the Gauls. The flower of their warriors was absent in Etruria; those who were left, and endeavored to resist the invaders, were defeated with great slaughter. No quarter was given to any male able to bear arms; the women and children were carried off as slaves; the villages and houses were burnt, and the whole country was made a desert.

THIRD YEAR.

LATIN.—JUVENAL.—SATIRES I. AND III.

WEDNESDAY, DECEMBER 18TH:—MORNING, 9 TO 12.

Examiner, ...REV. GEORGE CORNISH, LL.D.

1. Translate.—

(A) Vestibulis abeunt veteres lassique clientes,
Votaque deponunt: quanquam longissima cœnæ
Spes homini: caulis miseris atque ignis emendus.
Optima silvarum interea pelagique vorabit
Rex horum, vacuisque toris tantum ipse jacebit.
Nam de tot pulchris et latis orbibus et tam
Antiquis una comedunt patrimonia mensa.
Nullus jam parasitus erit: sed quis feret istas
Luxuriæ sordes? Quanta est gula, quæ sibi totos
Ponit apros, animal propter convivia natum!
Pœna tamen præsens, quum tu deponis amictus
Turgidus et crudum pavonem in balnea portas.
Hinc subitæ mortes atque intestata senectus.
It nova, nec tristis, per cunctas fabula cœnas,
Ducitur iratis plaudendum funus amicis.

(B) Hic tunc Umbricius, Quando artibus, inquit, honestis
Nullus in urbe locus, nulla emolumenta laborum,
Res hodie minor est, here quam fuit, atque eadem cras
Deteret exiguis aliquid: proponimus illuc
Ire, fatigatas ubi Dædalus exuit alas,
Dum nova canities, dum prima et recta senectus,
Dum superest Lachesi quod torqueat, et pedibus me
Porto meis, nullo dextram subeunte bacillo.
Cedamus patria: vivant Artorius istic
Et Catulus; maneant qui nigrum in candida vertunt,
Quis facile est ædem conducere, flumina, portus,
Siccandam eluviem, portandum ad busta cadaver,
Et præbere caput domina venale sub hasta.

(C) Nonne vides quanto celebretur sportula fumo?
Centum convivæ; sequitur sua quemque culina.
Corbulo vix ferret tot vasa ingentia, tot res
Impositas capiti, quot recto vertice portat
Servulus infelix et cursu ventilat ignem.
Scinduntur tunicæ sartæ modo: longa coruscat
Sarraco veniente abies, atque altera pinum
Plaustra vehunt; nutant alte populoque minantur:
Nam si procubuit qui saxa Ligustica portat
Axis, et eversum fudit super agmina montem,

Quid superest de corporibus? quis membra, quis ossa
Invenit? Obtritum vulgi perit omne cadaver
More animæ.

2. Translate and illustrate the following passages by a reference to the customs of the Romans :—(1) Præbere caput domina venale sub hasta. (2) Me prior ille signabit fultusque toro meliore recumbet? (3) Ranarum viscera nunquam inspexi. (4) Ille metit barbam, crinem hic deponit amati. (5) Dum pervolat axe citato Flaminiam puer. (6) Alea quando hos animos? (7) Densissima centum quadrantes lectica petit. (8) Sportula, deinde forum, jurisque peritus Apollo atque triumphales.

3. What persons are referred to in the following extt. :—(1) Da testem Romæ tam sanctum quam fuit hospes Numinis Idæi. (2) Vel qui servavit trepidam flagranti ex æde Minervam. (3) Auruncæ alumnus. (4) Venusina lucerna. (5) Automedon lora tenebat. (6) Isaeo torrentior. (7) Clauso Veiento labello. (8) Eripient somnum Druso.

4. Explain the use of the cases italicised in the following :—(*a*) Mare percussum *puero*. (*b*) Porrectura *viro* miscet *sitiente* rubetam. (What other case might you rather expect here?) (*c*) *Adsiduo lectore* ruptae columnae. (*d*) Gratum litus *amoeni secessus*. (*e*) *Nulli* comes exeo, tamquam *extinctae* corpus non utile *dextrae*. (*f*) *Magnis opibus* dormitur in urbe.

5. Give the exact meaning and derivation of the following words used by Juvenal :—cophinus, niceteria, aliptes, peculia, togatas, lautum, farrago, fercula, parasitus, lacernas, Camenis, jactura.

6. (*a*) Discuss the following *var. lectt.* and give their meaning severally :—Quanto præstantius (*praesentius*) esset numen aquæ? Contentus illic veneto duroque cucullo (*culullo*). Quod nudum et frusta (*fustra*) rogantem. (*b*) Cite instances of the abstract used for the concrete in these Satt. (*c*) Scan the following vss., noting any peculiarities :—

Plurimus hic aeger moritur vigilando ; sed illum.
Hic Andro, ille Samo, hic Trallibus aut Alabandis
Ingenium par materiae? unde illa priorum.

7. (*a*) Write a sketch of the life of Juvenal. (*b*) Give a short account of Roman Satire and of its writers. (*c*) By what English writers has Sat. III. been translated or imitated.

8. (*a*) Show how difference of quantity gives difference of sense in the following words, severally :—*canis, canes, comas, mane, velis, vires, fuga, mala, mori, plaga, porta, reduci*. (*b*) Distinguish between the use of the *Gerundive* and the *Gerund*. (*c*) Distinguish between the meaning of *O et stultam* and *O tu stulta*. Illustrate from the Greek.

MATHEMATICS AND NATURAL PHILOSOPHY.

FIRST YEAR.

EUCLID—ARITHMETIC.

FRIDAY, DECEMBER 13TH, 1878:—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, LL.D. / GEORGE H. CHANDLER, B.A.

1. Prove that two circles cannot cut one another in more than two points.

2. To describe a circle about a given triangle.

a. Show that the centre will be inside, outside, or on one of the sides, of the triangle, according as this is acute-angled, obtuse-angled, or right-angled.

3. On a given straight line to describe a rectilinear figure similar and similarly situated to a given rectilinear figure (a pentagon.) Explain the meaning of "similarly situated."

4. In any right-angled triangle, any rectilineal figure described on the side subtending the right angle is equal to the similar and similarly described figures on the sides containing the right angle.

5. Add together $3\frac{1}{2} + 5\frac{1}{4} + 2\frac{3}{7}$; multiply the sum by $\frac{5.6}{3\,1.3}$; divide one half of the product by 2 and take $\frac{1}{4}$ from the quotient.

6. Reduce 9 oz. 16 dwt. 12 grs. to the decimal of a pound Troy.

7. If the volume of a gas vary inversely as the pressure per square inch, find the volume that would be occupied by 25 cubic feet of a gas which is under a pressure of 300 lbs per square inch if the pressure were reduced to 15 lbs per square inch.

8. Parallelograms on equal bases and between the same parallels are equal to one another.

9. If from a point without a circle two straight lines be drawn, one of which cuts the circle, and the other touches it, the rectangle contained by the whole line which cuts the circle, and the part without the circle, shall be equal to the square on the line which touches it.

10. If four quantities be proportional according to the algebraical definition, show that they are proportional according to Euclid's definition. Explain the terms *alternando* and *componendo*.

11. Find a third proportional to two given straight lines.

12. From $429.80 deduct 29 per cent. and divide the remainder by 10.2.

13. Find the interest on $894.80 for 7 years, 3 months, 20 days, at 6 per cent. per annum, simple interest.

14. Extract the square root of 2.

SECOND YEAR.

EUCLID—ALGEBRA—TRIGONOMETRY.

WEDNESDAY, DECEMBER 18TH :—MORNING, 9 TO 12.

Examiners,..... } ALEXANDER JOHNSON, LL.D.
G. H. CHANDLER, B.A.

1. Inscribe a circle in a given triangle.

2. Find a mean proportional between two given straight lines.

3. Reduce to its lowest terms $\frac{4x^2 - 12ax + 9a^2}{8x^3 - 27a^3}$

4. Divide $x^4 - \frac{1}{x^4}$ by $x - \frac{1}{x}$

5. Find the greatest Common Measure of $6a^2 + 7ax - 3x^2$ and $6a^2 + 11ax + 3x^2$

6. Find the sine, cosine and tanget of 60°

7. Prove $tan\,(A + B) = \frac{tan\,A + tan\,B}{1 - tan\,A\,tan\,B}$

a. Calculate *tan* 45° and assuming that *tan* 30° $= \frac{1}{\sqrt{3}}$ find by the above formula *tan* 15° to 3 places of decimals.

8. The cosine of an angle is equal to the cosine of its supplement but with an opposite sign.

9. In any right-angled triangle, the square which is described on the side subtending the right angle is equal to the squares on the sides which contain the right angle.

10. Similar polygons may be divided into the same number of similar triangles having the same ratio to one another that the polygons have; and the polygons are to one another in the duplicate ratio of their homologous sides.

a. Prove that similar triangles are to one another as the squares on their homologous sides.

11. Resolve $x^4 - y^4$ into three factors, and extract the square root of $1 - 6x + 15x^2 - 20x^3 + 15x^4 - 6x^5 + x^6$.

12. Solve the equations :—

$$\frac{5x}{x+4} - \frac{3x-2}{2x-3} = 2$$

$$\left.\begin{aligned} \frac{1}{x} + \frac{1}{y} &= a \\ \frac{1}{x} - \frac{1}{y} &= b \end{aligned}\right\}$$

$$\left.\begin{aligned} x + y &= \\ x^3 + y^3 &= 217 \end{aligned}\right\}$$

13. How much tea at 4s. 6d. must be mixed with 50 lbs. at 6s. that the mixture may be sold at 5s. 6d. per lb.

14. Prove that the circular measure of an angle of A degrees is $\frac{\pi}{180}$A.

a. Reduce the angle 345° to circular measure.

THIRD YEAR.

MECHANICS.

TUESDAY, DECEMBER 10TH :—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Describe the experimental illustration of the principle of the composition of forces given in the text book, and point out the limits to the weights that can be employed.

2. Assuming that the resultant of two forces is in the direction of the diagonal of the parallelogram formed by them, prove that it is represented in magnitude by the diagonal.

3. Prove that the sum of the moments of two parallel forces with regard to any point on their resultant is zero.

a. If any number of parallel forces in one plane be in equilibrium, the sum of their moments with regard to any point in the plane is zero.

β. On a uniform straight bar weighing 5 lbs., and 5 feet long, weights of 1, 2, 3, 4 lbs. are hung at the distances 1, 2, 3, 4 feet respectively from the extremity ; find the distance, from the centre of the bar, of the fulcrum on which the whole will rest.

4. The interval between the threads of a screw is $\frac{1}{6}$th of an inch ; the diameter of the cylinder is 1 inch ; a power equal to 139 lbs. acts in a circle whose circumference is 3 feet ; find the pressure on the thread of the screw.

5. Define the *co-efficient of friction*, and describe a means of determining it. Prove that it is equal to the tangent of the *angle of friction*.

6. Find the horse-power of a locomotive engine which moves uniformly at the rate of 50 miles per hour, on a horizontal railway, pulling a train weighing 45 tons; the friction being $\frac{1}{280}$th of the weight of the train, and the resistance of the air not being taking into account.

7. Define the *mass* of a body; distinguish carefully between the *mass* of a body and its weight; and describe the mode of proof of the equation $W = mg$.

8. State the law of universal gravitation, and express it algebraically. Describe the method by which Newton tested its truth in the case of the moon, and state the cause of his failure in the first instance.

9. The spaces described by a falling body in successive seconds are proportional to the series of odd numbers.

10. The velocity acquired by a body in running down an inclined plane is equal to the velocity acquired in falling the height of the plane.

11. Find the difference in the number of vibrations of a pendulum in one mean solar day due to a change of latitude.

12. Two weights of 10 lbs. and 11 lbs. respectively are connected by a long fine string, which passes over a pulley so that the weights hang vertically. Find the number of feet which the heaviest descends in 3 seconds

---

THIRD AND FOURTH YEARS.

FRICTIONAL ELECTRICITY.

WEDNESDAY, DECEMBER 11TH :—MORNING, 9 TO 11.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Describe an experiment to show that when two bodies are rubbed together, electricity is developed on each. How would you prove, 1° That the properties of the electricity on each are alike. 2° That there are nevertheless two opposite electricities.

a Describe Faraday's experiment to show that the electricities are equal in quantity.

2. Arrange the following bodies in the order of electrical conductivity :— Dry wood, silk, vegetables, linen, glass, water, shellac, iron, alcohol, wax.

3. State the laws of electrical attraction, and describe the method of proving them by Coulomb's torsion balance, giving an accurate account of this last.

4. Define specific inductive capacity, and describe an experiment of Faraday's in which shellac and air were compared.

5. State and explain fully the action between two electrified bodies, one fixed, the other movable, when they are charged 1° with opposite electricities, 2° with electricities of the same kind.

6. Describe fully the plate machine, explaining the action of the different parts, more especially the metal combs. How can the truth of the theory of these last be proved experimentally?

7. Describe the condenser of Epinus, and the action which takes place when it is being charged. Make a calculation of the condensing force.

8. Describe the method of measuring the charge of a Leyden battery by means of a unit jar.

FOURTH YEAR.

ASTRONOMY—OPTICS—MECHANICS—HYDROSTATICS.

TUESDAY, DECEMBER 10TH:—MORNING, 9 TO 1.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Name the chief instruments employed in an astronomical observatory, and describe the mode of using them if it be required to lay down the position of a star on a celestial globe.

2. A traveller in an unexplored territory has with him a sextant, a good watch, and a Nautical Almanac; state the observations to be made, and the mode of using them when made, in order to lay down his position at any time on a map.

3. Investigate the method of finding the distance of the moon from the earth.

4. Define periodic time and synodic time in the case of the moon. How may the former be observed? Assuming its length, and the length of a year, calculate roughly the difference between the two periods.

5. Mars is said to have "a retrograde motion in opposition, a direct motion in conjunction, with two stationary points intermediate." Explain these appearances.

6. How has the time of rotation of the sun on its axis been ascertained?

7. State and prove the principle of Hadley's Sextant.

8. Describe the astronomical telescope, and find the magnifying power if the focal lengths of the object-glass and eye-glass respectively be 8 inches and $\frac{3}{8}$ inch.

9. An imperfectly elastic ball impinges on a plane at an angle of 30° and is reflected at an angle of 60°, investigate a formula for determining the co-efficient of elasticity, and make the calculation.

10. Prove that the part of the centrifugal force at any point of the earth's surface which is employed in diminishing gravity varies as the square of the cosine of the latitude.

a. Calculate the diminution in lat. 23°.

11. Define a "constant force," and calculate the space that has been described by a body under the action of a constant force of 32.19 feet per second when it has just attained a velocity of 75 feet per second.

12. Find the resultant of two parallel forces acting in the same direction.

13. Describe Nicholson's hydrometer, and the mode of using it.

a. If the standard weight be 300 grs.; calculate the specific gravity of a specimen of mineral whose first and second weighings give 25.36 grs. and 102.33 grs. respectively.

14. The water in a canal lock rises to a height of 18 feet against a gate whose breadth is 11 feet; calculate the total pressure against it.

ENGLISH AND RHETORIC.

FIRST YEAR.

ENGLISH LANGUAGE.

MONDAY, DECEMBER 16, MORNING 9 to 1.

Examiners,..... { VEN. ARCHDEACON LEACH, D C.L.
CHAS. E. MOYSE, B.A.

[Question 17 is obligatory.]

1. Why are proper, singular, nouns said to be meaningless? (2) And common, general, nouns said to be significant?

2. (1) What are material nouns? (2) Mention the three ways in which they pass into or are used as class or general nouns.

3. (*a*) What is the difference between gender and sex? Give the feminine forms of lord, brother, drake, sire. (*b*) Show that the first of those feminines is a perfectly regular derivative from the masculine form. Give the etymological meaning of each of the eight nouns.

4. (*a*) What changes do modern English nouns undergo to show plurality? (*b*). What were the Anglo-Saxon noun inflections for number? Show how they have been weakened and assimilated. Discuss the words in italics.

(1) A *pese*
Above a pearl in price.

(2) These be my mother, *brether* and sisters.

(3) Our lamp is spent, it's out! Good *sirs*, take heart.

(4) Mice and rats and *such small deer*.

5. Show by derivation and construction whether the following nouns are singular or plural: alms, riches, summons, news.

6. (*a*) What was the first signification of the word "case"? Give its present meaning? What cases exist in modern English? Distinguish them. (*b*) Explain: (1) Lord's day, Lady day; (2) Ben Jonson, his plays. (3) When wilt thou leave fighting o' days and foining o' nights. (4) Whilom. (5) Darkling.

7. Give the classification of pronouns.

8. Mention the three distinct modes of reference of the pronoun "it."

9. (*a*) Distinguish between (1) the modern, (2) the Elizabethan, use of "thou" and "you." Explain the difference between "my" and "mine." (*b*) Comment on the words in italics:

(1) *chill* not let go, zir.

(2) And that same eye whose bend doth awe the world
Did lose *his* lustre.

(3) The hedge sparrow fed the cuckoo so long
That it's had *it* head bitt of by *it* young.

10. What pronouns are derived from the Anglo-Saxon definite article?

11. (1) Which are the adjectives that are most commonly used as adverbs? (2) And give examples of one adjective qualifying another adjective.

12. (*a*) Compare, good, far, forth, much. (*b*) Discuss the irregular forms.

13. (*a*) Define the terms Transitive, Intransitive, Strong. Weak, as applied to verbs. Classify "Strong" verbs. (*b*) According to the mimetic theory of the origin of language, what class of verb was first coined? Derive the active participle in "ing." Show that the "to" of the Infinitive Mood is an interloper.

14. How are the conjunctions classified?

15. Explain the terms: alternative, arrestive, adversative, exclusive, illative, co-ordinate.

16. What are verbs of incomplete predication?

17. Analyse grammatically:

(*a*) Full many a gem of purest ray serene
The dark unfathomed caves of ocean bear.

(*b*) I will tell you now
What never yet was heard in tale or song
From old or modern bard, in hall or bower.

(*c*) Let's dry our eyes; and thus far hear me, Cromwell;
And when I am forgotten, as I shall be,
And sleep in dull, cold marble, where no mention
Of me more must be heard of, say, I taught thee;
Say, Wolsey, that once trod the ways of glory,
And sounded all the depths and shoals of honor,
Found thee a way, out of his wreck, to rise in:
A sure and safe one though thy master missed it.

THIRD YEAR.

RHETORIC.

THURSDAY, DECEMBER 12TH:—MORNING, 9 TO 12.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Reply to the following questions:—

"Is oratorical skill, on the whole, a public benefit or evil"?

"Is any artificial system of rules conducive to the attainment of that skill"?

2. Explain the two senses in which the term "conviction" is employed.

3. Mention, with some explanation, the three questions in regard to the laying down of propositions to be argued.

4. Explain the division of Arguments (1) into Probable and Necessary (2) into Direct and Indirect.

5. Give the substance of the remarks on the subject of "the Plausible.

6. Give the Analysis of the kind of Argument denominated "Sign".

7. Distinguish Logical and Physical Sequence, and mention some of the Ambiguities that arise from the inadequacy of language to express this distinction.

8. Show the importance in Testimony of distinguishing Matters of Fact and Matters of Opinion.

9. Give the substance of what is said on the subject of Concurrent Signs.

10. Show that invented Examples may be employed effectively for conviction.

11. How is the Argument from Example understood and used by Whately?

12. Point out the dangers that are said to arise (1) from too earnest refutation; (2) from using topics not directly accessible to the persons addressed.

FOURTH YEAR.

ENGLISH LITERATURE.

MONDAY, DECEMBER 16TH, MORNING, 9 to 1.

Examiners, ... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Mention some of the uses of the history of Literature.

2. Give an account of the several conditions mentioned as particularly favorable to the cultivation of Literature.

3. What reasons may be assigned for the vast expansion of literary productions in modern times.

4. Mention the names of some of the individuals that deserve to be specially remembered for their services in the preservation of ancient classica books.

5. What are the causes that are chiefly operative in modifying the character of the Literature of a people.

6. How do you account for the similarities that are found to exist among the fictitious literary productions of different nations.

7. State and explain the first two rules given for the critical judging o literary productions.

---

8. In what mutual relation do History and Literature stand? Define "Literature."

9. Give a brief account of the early Italian influence on English writers.

10. Sir Piercie Shafton, in "The Monastery," says:—"Ah, that I had with

me that all-to-be-unparalleled volume, that quintessence of human wit." (*a*) what book is referredto ? (*b*) Its date ? (*c*) Whence did its author take its title ? (*d*) How did he find that title used ? (*e*) Say what you know of the inner spirit of the "quintessence." (*f*) By whom was that spirit first esteemed truly ?

11. Talking of stones, stars, plants, of fishes, flies,
Playing with words and idle similes.

(*a*) To what style of English writing is this quotation especially applicable ? (*b*) Relate clearly its growth and decay.

12. In what work is the French influence on our Literature first seen ? What kind of influence was it ? Trace its growth in France and its course in England.

13. What did Daniel Defoe's "The Shortest Way with the Dissenters" inaugurate ? Note briefly the character of that book.

14. "Lo, Della Crusca toils to give the crude conception vent." (*a*) Who was Della Crusca ? (*b*) Whence did he derive his name ? (*c*) Give a short account of his fashionable disciples and of their treatment by a contemporary satirist. (*d*) Why are they noteworthy ?

15. (*a*) Show the direct influence of the French Revolution on Wordsworth, Coleridge, Southey. (*b*) The indirect on Byron and Shelley.

16. (*a*) How did Wordsworth regard God, Nature, Man ?

What one is
Why may not millions be ?

(*b*) Why did the 18th century fail in attempting to carry this thought into action ? (*c*) How are the best writing and the truest work of the 19th century urging us to attain the poet's ideal ?

17. To what dates has Chaucer's birth been assigned ? What recent evidence almost settles the question ? What evidence has been adduced from Chaucer's writings to prove his residence at either of the English Universities ? State some facts of Chaucer's life prior to 1369.

MENTAL AND MORAL PHILOSOPHY.

SCOND YEAR.

ELEMENTARY PSYCHOLOGY.

FRIDAY, DECEMBER 13TH:—MORNING, 9 TO 12.

Examiner,..... .....J. CLARK MURRAY, LL.D.

1. Explain the origin of the terms, psychology and metaphysics.

2. (*a*) Distinguish the terms, psychical and physical. (*b*) Mention other terms which denote the same distinction.

3. (*a*) What is consciousness? (*b*) What is really meant when "I" am said to do an action unconsciously?

4. (*a*) Distinguish the special and the general senses. (*b*) Illustrate the distinction by an example of each.

5. Describe (*a*) the organ of smell, (*b*) the bodies which act on it, (*c*) its sensations, pure and mixed.

6. Describe (*a*) the general, (*b*) the special, organ of touch, (*c*) the admirable adaptation of the latter for its purposes, (*d*) the sensations of touch proper. (*e*) What general sense is usually combined with touch in these sensations?

7. (*a*) State the primary laws of suggestion. (*b*) What are they respectively named by Sir Wm. Hamilton?

8. Explain, by the laws of suggestion, why a good portrait is said to be a *striking* likeness, a poor portrait a *faint* likeness.

9. By what law of suggestion should change of scene be recommended to a person suffering from mental anxiety?

10 Why should habits become, (*a*) after a time, easy, and (*b*) even, at last, irresistible?

11. Distinguish *a priori* and *a posteriori*, as applied to cognitions.

12. Explain the purport of the controversy between the empirical and intuitional schools.

THIRD YEAR.

MORAL PHILOSOPHY.

THURSDAY, DECEMBER 19TH:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Distinguish the two Parts of Moral Philosophy, showing that they are founded on two views of human nature, and that two analogous views may be taken of other objects in the animal, vegetable, and mineral kingdoms.

2. Distinguish Feeling from Cognition on the one hand, and Volition on the other.

3. Distinguish the two main divisions of the Feelings.

4. Sketch the theory of Pleasure and Pain, maintained in ancient times by Aristotle, in modern times by Sir W. Hamilton.

5. Explain and illustrate the relation of the Representability of Feelings to their Intensity on the one hand, and their Durability on the other.

6. (*a*) What is the essential characteristic of the consciousness of Moral Obligation? (*b*) In the light of that characteristic criticise the theories of Hobbes and of Occam.

7. (*a*) Explain the theory of a Moral Sense. (*b*) By whom was it held?

8. (*a*) Show that the quality, which constitutes the Goodness of an action, is different to different minds. (*b*) Sketch the course of moral civilization in enlightening the minds of men upon this quality.

9. (*a*) What conditions are necessary to make an action absolutely good? (*b*) What is the effect upon the moral character of an action, if the one or the other of these conditions is unfulfilled?

10. State the connection of the two antagonistic theories of Moral Action with three prominent philosophical problems.

FOURTH YEAR.

MENTAL PHILOSOPHY.

THURSDAY, DECEMBER 12TH:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain (*a*) the etymology, (*b*) the original meaning, (*c*) the Socratic application of the word Philosopher.

2. Explain the relation of Philosophy to the Special Sciences.

3. Show that even the simplest perception is a complex product of intellectual processes.

4. Mention any figurative applications of the word Taste, which prove that the perceptions of Taste involve an intellectual element.

5. Compare Taste and Smell in intellectual character.

6. Show that the perceptions of (*a*) magnitude and (*b*) situation by Touch are due to association and comparison.

7. (*a*) What perceptions are based on the general sensibility of the ear to intensity of sound? (*b*) Explain the process of their formation.

8. Prove that neither (*a*) plane nor (*b*) cubical extension can be perceived immediately by Sight.

9. (*a*) How can it be shown that, in looking at a near object with both eyes, there are, though usually unnoticed, two dissimilar pictures of it formed on the retinæ? (*b*) Explain the value of the two pictures in visual perception.

10. By what data do we learn to perceive the situation of objects, or of parts of an object, on the field of vision?

11. Explain the nature of Abstraction.

12. Show that knowledge commences neither with the definite individual nor with the definite class.

MODERN LANGUAGES AND HEBREW.

FIRST YEAR.

FRENCH.

THURSDAY, DECEMBER 19TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., B.C.L.

1. What are contracted articles? Give the list of them. When are they used?

2. Translate into French, *He is in continual alarm*, in two ways, 1st putting the adjective before the noun, and 2nd after the noun. Explain how the partitive article has to be written in either case.

3. How do you form the plural of nouns ending in *ail* and in *ou*? Give two examples. And write five nouns, ending in *ou* and in *ail* which do not form their plural according to those rules.

4. Write both genders of *deceitful*, *a plaintiff*, *infirm*, *twin*, *dumb*, *emperor careful*, *malignant*.

5. What are the adjectives which have the same form for the masculine and the feminine? Give three.

6. Translate and write in words: *He has twelve hundred and twenty books*

in his library, and in eighteen hundred and eighty, he will have fifteen hundred. Explain fully the rule concerning numerals *twenty, eighty, hundred.*

7. Translate *his paper, his pen, his books.* Explain fully the difference between the English and French languages in the use of the possessive adjectives in the above and similar examples.

8. Write in full the Preterite definite, Imperative, and Subjunctive present of *être, recevoir, ne pas se lever,* and *falloir.*

9. Write in full the four forms (positive, negative, &c.) of *se couper, se promener* and *ne pas parler* in the *Imperfect of the Indicative.*

10. What do you call primitive tenses? Are the *Preterite definite* and the *Imperative*, primitive or derivative? If primitive, what tense or tenses do they form? If derivative, from what tenses are they formed, and how?

11. Translate: The furniture in that house is very complete; there are fine arm-chairs, beautiful chests of drawers and engravings with elegant frames, large wardrobes. I have in my sleeping room a dressing table, a wash-stand, a decanter, &c. Shall we alight here? He has not sold his country-house. Has he not a short coat and a cloak above it? Will h not betray your confidence? Your conduct will be approved by wise and enlightened people. Let us walk under the shade of these trees. This is a nice place to rest ourselves.

12. Translate into English:—

LE RENARD ET LA CIGOGNE.

Compère le renard se mit un jour en frais,
Et retint à dîner commère la cigogne.
Le régal fut petit et sans beaucoup d'apprêts:
  Le galant, pour toute besogne,
Avait un brouet clair, il vivait chichement.
Ce brouet fut par lui servi sur une assiette,
La cigogne au long bec, n'en put attraper miette;
Et le drôle eut lapé le tout en un moment.
  Pour se venger de cette tromperie,
A quelque temps de là, la cigogne le prie,
Volontiers, lui dit-il, car avec mes amis
  Je ne fais point cérémonie.

LA FONTAINE.

SECOND YEAR.

FRENCH.

MONDAY, DECEMBER 16TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., B.C.L.

1. Where do you place personal pronouns used as subjects of the verb? Give an example. State four exceptions to that rule, and give an example of each.

2. Where do you generally place the adjectives in French? Give two exceptions to that rule. State the difference between:

Un bon homme and *un homme bon.*
Un seul homme and *un homme seul.*
Un honnête homme and *un homme honnête.*
Un pauvre homme and *un homme pauvre.*

3. What do you remark about the adjectives *demi nui*, and *feu?* Illustrate your answer by examples.

4. State two cases, with examples, when you have to use the *Pluperfect of the Subjunctive mood.*

5. Translate the following verbs, with the prepositions they respectively govern, when they govern any: *to intend, to dare, to fancy, to boast of, to thank for, to threaten to, to take care not to, to succeed in, to delight in, to venture to.*

6. Translate into French: How many towns destroyed would have been saved, had the conqueror been more humane! The songs which I have heard your sister sing are very fine. The house which I have advised you to buy is large and well situated. It frequently happens that we commit the same faults which we had resolved to avoid. Has she not rendered all the services she could? The five hours he has slept this morning are the only rest he has had for a fortnight. I have not succeeded, notwithstanding the steps you advise me to take. I have received the letters you wrote respecting the affair which I had proposed to you; and after having read them attentively, I found that if I had undertaken it I should have met with obstacles which I had not foreseen.

7. Explain fully how the different participles, in the above sentences, are to be written in French.

8. What criticism did J. J. Rousseau make against *L'Avare* of Molière?

9. Translate into English:

Marianne.—Oui, mon cœur s'est ému dès le moment que vous avez ouvert la bouche; et notre mère, que vous allez ravir, m'a mille fois entretenue des disgrâces de notre famille. Le ciel ne nous fit point aussi périr dans ce triste naufrage; mais il ne nous sauva la vie que par la perte de notre liberté; et ce furent des corsaires qui nous recueillirent, ma mère et moi, sur un débris de notre vaisseau. Après dix ans d'esclavage, une heureuse fortune nous rendit notre liberté, et nous retournâmes dans Naples, où nous trouvâmes tout notre bien vendu, sans y pouvoir trouver des nouvelles de notre père. Nous passâmes à Gênes, où ma mère alla ramasser quelques malheureux restes d'une succession qu'on avait déchirée, et de là, fuyant la barbare injustice de ses parents, elle vint en ces lieux où elle n'a presque vécu que d'une vie languissante.

MOLIÈRE, *L'Avare.*

THIRD YEAR.

FRENCH.

FRIDAY, DECEMBER 20TH:—MORNING, 9 TO 12.

Examiner,..... .....P. J. DAREY, M.A., B.C.L.

1. Translate into English:—

Je déjeunerais bien pour me distraire; mais la portière a oublié mon lait du matin, et le pot de confiture est vide! Un autre serait contrarié: moi j'affecte la plus superbe indifférence. Il reste un croûton durci que je brise à force de poignets et que je grignote nonchalamment comme un homme bien au-dessus des vanités du monde et des pains mollets. Cependant je ne sais pourquoi mes idées s'assombrissent en raison des difficultés de la mastication. Il y a des heures dans la vie où la contrariété la plus futile prend les proportions d'une catastrophe. Notre humeur ressemble aux lunettes de spectacle qui, selon le bout, montrent les objets moindres ou agrandis. Habituellement la perspective qui s'ouvre devant ma fenêtre me ravit. C'est un chevauchement de toits dont les cîmes s'entrelacent, se croisent, se superposent, et sur lesquels de hautes cheminées dressent leurs pitons. Hier, encore, je leur trouvais un aspect alpestre, et j'attendais la première neige pour y voir des glaciers; aujourd'hui je n'aperçois que des tuiles et des tuyaux de poêle.

E. SOUVESTRE, *Un Philosophe sous les Toits.*

2. Comment les adjectifs terminés au masculin en *teur* qui ne viennent pas régulièrement de la forme verbale en *ant*, forment-ils leur féminin? Citez-en deux exemples?

3. Comment les adjectifs terminés au masculin en *gu* forment-ils leur féminin? Donnez-en deux exemples.

4. Citez cinq mots qui sont quelque fois adjectifs indéfinis et d'autres fois pronons indéfinis. Donnez-en deux exemples.

5. Qu'est-ce que vous appelez *compléments* en grammaire française? Combien y en a-t-il. Quels noms leur donne-t-on encore? Pourquoi?

6. Traduisez en anglais:—

La nuit verse quelquefois sur la paupière du malheureux l'oubli des peines de la journée, et l'illusion sur celles qui l'attendent le lendemain.

Indiquez les différents compléments que renferme cette phrase et la nature de ces compléments.

7. Traduisez en français:—

But though all this gave me no pleasure, it had a very different effect upon Olivia, who mistook it for humour though but a mere act of the memory. She thought him, therefore, a very fine gentleman; and such as consider what powerful ingredients a good figure, fine clothes and fortune are in that character, will easily forgive her. Mr. Thornhill, notwithstanding his real ignorance, talked with ease, and could expatiate upon the common topics of conversation with fluency. It is not surprising then, that such talents should win the affections of a girl who by education was taught to value an appearance in herself, and, consequently, to set a value upon it in another:—GOLDSMITH, *The Vicar of Wakefield.*

FIRST YEAR IN ARTS AND MIDDLE YEAR IN APPLIED SCIENCE.

GERMAN.

FRIDAY, DECEMBER 20TH :—MORNING, 9 TO 12.

Examiner,.....C. F. A. MARKGRAF, M.A.

1. Translate into English :—

(A) Der Wolf auf dem Sterbebette.

Der Wolf lag in den letzten Zügen und schickte einen prüfenden Blick auf sein vergangenes Leben zurück. „Ich bin freilich ein Sünder," sagte er, „aber doch hoffe ich, keiner von den größten. Ich habe Böses gethan; aber auch viel Gutes. Einsmals, erinnere ich mich, kam mir ein blökendes Lamm, welches sich von der Heerde verirrt hatte, so nahe, daß ich es gar leicht hätte würgen können und ich that ihm nichts. Zu eben dieser Zeit hörte ich die Spöttereien und Schmähungen eines Schafes mit der bewundernswürdigsten Gleichgültigkeit an, ob ich schon keine schützenden Hunde zu fürchten hatte."

„Und das alles kann ich dir bezeugen," fiel ihm Freund Fuchs, der ihn zum Tode bereiten half, ins Wort. „Denn ich erinnere mich noch gar wohl aller Umstände dabei. Es war zu eben der Zeit, als du dich an dem Beine so jämmerlich würgtest, das dir der gutherzige Kranich hernach aus dem Schlunde zog."

Lessing.

(B) „Aber," fuhr sein Vater fort, indem er die Schreibtafel aus der Tasche zog, „sieh doch einmal, was hier geschrieben steht; lies doch." „„Ich wollte, daß es immer Winter wäre!" " — „Und nun lies einmal hier auf dieser Seite, was steht denn da?" — „„Ich wollte, daß es immer Frühling wäre!" " — „Und was auf dieser Seite hier?" — „„Ich wollte, daß es immer Sommer wäre!" " — „Kennst du," fuhr er fort, „die Hand die dieses geschrieben hat?" — „Das habe ich geschrieben," antwortete Ernst. — „Und was wünschtest du jetzt eben?" — „„Ich wünschte, daß es immer Herbst sein möchte." " — „Das ist sonderbar genug," sagte der Vater. „Im Winter wünschtest du, daß es Winter, im Frühlinge, daß es Frühling, im Sommer, daß es Sommer, und im Herbste, daß es Herbst sein möchte. Denk einmal nach, was folgt daraus?" — „Daß alle Jahreszeiten gut sind." — „Ja, daß sie alle reich an Freuden, reich an mannigfaltigen Gaben sind, und daß der liebe, große Gott viel besser, als wir armen Menschen, sich auf das Weltmachen verstehen muß. Hätt' es vorigen Winter von dir abgehangen, so würden wir keinen Frühling, keinen Sommer, keinen Herbst gehabt haben. Du hättest die Erde mit ewigem Schnee bedeckt, um nur Schlitten fahren und immer Schneemänner machen zu können. Und wie viele andere Freuden hätten wir dann entbehren müssen! Wohl uns, daß es nicht auf uns ankommt, wie es in der Welt sein soll; wie bald würden wir sie verschlimmern, wenn wir könnten!"

Campe.

2. (*a*) When must the *definite* article be used in German, though not expressed in English? (*b*) When is the *indefinite* article omitted in German, though used in English? (*c*) When is the *indefinite* article in English rendered by the *definite* in German? Explain, and give short examples for *a*, *b*, *c*.

3. (*a*) What classes of Nouns are *always* masculine, or feminine, or neuter? (*b*) State the general rules for the formation of the Plural of Nouns.

4. Give the meaning and explain the composition of Fruchtkörbchen, Blumensträuße, Bücherschränke, Augenschirme, Bilderbücher, Spielsachen, Wochentage, Kettenbrücken, Seidenhüte.

5. Decline, giving the Nominatives, Datives and Accusatives of both numbers:—the eldest brother; her faithful friend (fem.); that large field; clear, cold water.

6. Give the meaning and derivation of the following adjectives:—ſtählern, meſſingen, rötheſt, ſammetener, ärmer, eiſern, ſtoffenes, ſtärkeres, elfenbeinern, flügſt, ſchildkrötener, knöchern, ſchärfſter, blecherner, nächſt.

7. (*a*) Decline the *personal* pronouns. (*b*) Write in full letters 321, 801, 5070, 620317 (*c*) When is *Time* expressed by Zeit; when by mal, and Mal? Give examples.

8. Translate:—I am going—do they learn?—who is coming?—do not say that!—they like it— may we not play?—are you willing to stay?—he is to wait.

9. Parse the following verbs, and give their Present Infinitives:—geſehen, reiſ't, geändert, gebunden, geht aus, weiß, gerathen, ausgeritten darf, mag, verziehen, gebracht, erzählt, zeigt, genommen, verboten, koſtet, verkauft, geſchrieben.

10. Translate into German:—

Old houses are often very high. Dear works are not always the best. (The) sparrows are small birds. Go home, and fetch my books. What will our neighbors do at home this afternoon? Those people do not know what they want. His two sons are very clever, they know *how* to speak several languages. This road is too long, we will take the shorter *one*. Here are ten pairs of gloves, and there are the thirteen ells of black cloth What kind of fruit do those trees bear? They bear apples, plums and pears. You are right, and he is wrong. Is not to-day the twentieth of December? Every teacher likes to praise the diligent boys. We always give the preference to the most useful thing.

SECOND YEAR IN ARTS AND SENIOR YEAR IN APPLIED SCIENCE.

GERMAN.

FRIDAY, DECEMBER 20TH:—MORNING, 9 TO 12.

Examiner, ...C. F. A. MARKGRAF, M.A.

I. Translate into English:—

(A) Wallenstein wußte längst den ganzen Inhalt ihrer Sendung, als die Abgesandten des Kaisers ihm vor die Augen traten. Er hatte Zeit gehabt, sich zu sammeln, und sein Gesicht zeigte Heiterkeit, während daß Schmerz und Wuth in seinem Busen stürmten. Aber er hatte beschlossen zu gehorchen. Dieser Urtheilsspruch überraschte ihn, ehe zu einem kühnen Schritte die Umstände reif und die Anstalten fertig waren. Seine weitläufigen Güter waren in Böhmen und Mähren zerstreut; durch Einziehung derselben konnte der Kaiser ihm den Nerven seiner Macht zerschneiden. Von der Zukunft erwartete er Genugthuung, und in dieser Hoffnung bestärkten ihn die Prophezeiungen eines italienischen Astrologen, der diesen ungebändigten Geist, gleich einem Knaben, am Gängelbande führte. Seni, so hieß er, hatte es in den Sternen gelesen, daß die glänzende Laufbahn seines Herrn noch lange nicht geendig sei, daß ihm die Zukunft noch ein schimmerndes Glück aufbewahre. Man brauchte die Sterne nicht zu bemühen, um mit Wahrscheinlichkeit vorher zu sagen, daß ein Feind wie Gustav Adolph einen General wie Wallenstein nicht lange entbehrlich lassen würde.

Schiller, Wallenstein's Absetzung.

(B) Es flimmt und flammt rund um ihn her,
Mit grüner, blauer, rother Gluth;
Es wallt um ihn ein Feuermeer;
Darinnen wimmelt Höllenbrut.
Jach fahren tausend Höllenhunde,
Laut angehetzt, empor vom Schlunde.

Er rafft sich auf durch Wald und Feld
Und flieht, laut heulend Weh und Ach;
Doch durch die ganze weite Welt
Rauscht bellend ihm die Hölle nach,
Bei Tag tief durch der Erde Klüfte,
Um Mitternacht hoch durch die Lüfte.

Im Nacken bleibt sein Antlitz stehn,
So rasch die Flucht ihn vorwärts reißt.
Er muß die Ungeheuer sehn,
Laut angehetzt vom bösen Geist;
Muß sehn das Knirschen und das Jappen
Der Rachen, welche nach ihm schnappen.—

Das ist des wilden Heeres Jagd,
Die bis zum jüngsten Tage währt,
Und oft dem Wüstling noch bei Nacht
Zu Schreck und Graus vorüber fährt.
Das könnte, müßt' er sonst nicht schweigen,
Wohl manches Jägers Mund bezeugen.

Bürger, der wilde Jäger.

II.

1. Parse the following verbs, and give the 2nd Sing. of the Imperative, and the Present Infinitive of each:—wußte, traten, hatte beschlossen, waren, hieß, lassen würde.

2. Show the difference between geendigt sei and geendigt werde.

3. (*a*) die Abgesandten. What part of speech? Give the derivation. How are such words declined? (*b*) Eines Astrologen. To which declension does this noun belong? Mention some other nouns of this class.

4. die glänzende Laufbahn seines Herrn. Give the 4 cases Sing. of die glänzende Laufbahn; and the 4 cases Plur. of seines Herrn.

5. (*a*) Zerschneiden. What kind of verb? Give the Imperfect and Past Participle. (*b*) Fahren empor, rafft sich auf, rauscht nach. What kind of verbs? Give their Present Infinitives and Past Participles.

6. Flieht, bleibt, stehen, reißt, muß, fährt, könnte, schweigen. Write down all the irregular forms of each verb here given.

7. Müßt' er sonst nicht schweigen. Supply the ellipsis.

8. Conjugate in the Passive voice „erziehen," giving the 3rd Sing. and 2nd Plur. of all moods and tenses.

9. How many kinds of conjunctions are there in German with regard to their influence on the construction of a sentence? and how do they influence it?

III. Translate into German: —

Those who employ their riches well, are wise and good men (Mensch, *m.*) We rejoice at your good fortune, but we are very *much* grieved at (*a*) news which we have received this morning. Your native town lies on the Thames; but mine lies on the Danube. The present time is rich in (an, Dat.) great events. The Frankfort and Leipsic fairs are attended (besuchen) by many merchants. The Alps of Switzerland are the highest ranges of mountains *in* (of) Europe.

I like to follow the advice of *him* (that one) whose prudence I know so well. In a month at the latest we shall return from our journey. Pray, come up to me! I have no time to go up to you; but I shall be glad, if you come down to me. The ship sailed along the coast. Our house stands opposite to theirs. We thought you had gone out. According to his last letter, we may expect our friend within a few days.

IV. Literature.

1. What can you say as to the character and form of ancient German poetry?

2. Who were the *Amelungi* and *Nibelungi*? Name the great poem in which they play so important a part. Give its date and substance.

3. Mention the most important literary documents which have been handed down to us from the *Monastic* period; and give the names of the authors.

4. Give the dates of the *Mediæval* period, from its commencement to its close. What epochs does this period comprise? Give the dates, and describe briefly the general character of each epoch.

5. Write short notes on *Nicolaus Baumann*, *Hans Sachs*, and *Johann Tauler*.

THIRD YEAR.

GERMAN.

FRIDAY, DECEMBER 20TH:—MORNING, 9 TO 1.

Examiner ....C. F. A. MARRGRAF, M.A.

I. Überſetzen Sie ins Engliſche die folgenden zwei Stellen aus Goethe's „Fauſt":—

(A) Fauſt. Kehre dich um, von dieſen Höhen
Nach der Stadt zurückzuſehen.
Aus dem hohlen finſtern Thor
Dringt ein buntes Gewimmel hervor.
Jeder ſonnt ſich heute ſo gern;
Sie feiern die Auferſtehung des Herrn:
Denn ſie ſind ſelber auferſtanden,
Aus niedriger Häuſer dumpfen Gemächern,
Aus Handwerks- und Gewerbes-Banden,

Aus dem Druck von Giebeln und Dächern,
Aus der Straßen quetschender Enge,
Aus der Kirchen ehrwürd'ger Nacht
Sind sie alle an's Licht gebracht.
Sieh nur, sieh! wie behend sich die Menge
Durch die Gärten und Felder zerschlägt,
Wie der Fluß, in Breit' und Länge,
So manchen lustigen Nachen bewegt;
Und, bis zum Sinken überladen,
Entfernt sich dieser letzte Kahn.
Selbst von des Berges fernen Pfaden
Blinken uns farbige Kleider an.
Ich höre schon des Dorfs Getümmel;
Hier ist des Volkes wahrer Himmel,
Zufrieden jauchzet Groß und Klein:
Hier bin ich Mensch, hier darf ich's sein.

(B) Faust.

Betrachte, wie in Abendsonne-Gluth
Die grünumgebnen Hütten schimmern.
Sie rückt und weicht, der Tag ist überlebt,
Dort eilt sie hin und fördert neues Leben.
O daß kein Flügel mich vom Boden hebt,
Ihr nach und immer nach zu streben!
Ich säh' im ewigen Abendstrahl
Die stille Welt zu meinen Füßen,
Entzündet alle Höh'n, beruhigt jedes Thal,
Den Silberbach in goldne Ströme fließen.
Nicht hemmte dann den göttergleichen Lauf
Der wilde Berg mit allen seinen Schluchten;
Schon thut das Meer sich mit erwärmten Buchten
Vor den erstaunten Augen auf.
Doch scheint die Göttin endlich wegzusinken;
Allein der neue Trieb erwacht,
Ich eile fort, ihr ew'ges Licht zu trinken,
Vor mir den Tag und hinter mir die Nacht,
Den Himmel über mir und unter mir die Wellen.
Ein schöner Traum, indessen sie entweicht.
Ach! zu des Geistes Flügeln wird so leicht
Kein körperlicher Flügel sich gesellen.
Doch ist es jedem eingeboren,
Daß sein Gefühl hinauf und vorwärts dringt
Wenn über uns, im blauen Raum verloren,
Ihr schmetternd Lied die Lerche singt,

Wenn über schroffen Fichtenhöhen
Der Adler ausgebreitet schwebt,
Und über Flächen, über Seen
Der Kranich nach der Heimat strebt.

1. Erzählen Sie in kurzen Worten die Volkssage, welche Goethe den Stoff zu dieser Tragödie geliefert hat.

2. Welche Bedingungen sind erforderlich, um dieses Werk gehörig zu verstehen? Stehen die Ansichten, die geistigen Bestrebungen und Kämpfe, die tiefen Gemüthsbewegungen und Affekte, welche der Autor darin zur Anschauung bringt, in irgend welcher Beziehung zu ihm selbst, als Ergüsse und Abdrücke seines eigenen Lebens?

3. Schildern Sie die Charaktere von *Faust*, *Mephistopheles* und *Margarethe*.

II. Übersetzen Sie ins Deutsche:—

(A) The strangers were silent, and looked with astonishment at the weeping woman and at Gerhardt, who bade her (to) take courage. The latter then stepped nearer to the strangers again and said to them with the greatest composure: "Gentlemen, you need not look for that man in Berlin; he is standing before you. I am the dismissed preacher Paul Gerhardt; I have been obliged to leave Berlin, and am now, in firm trust to God, looking *out* for another home." The strangers were highly pleased to find so soon and so unexpectedly the man of whom they were in search, and to be dispensed by this *occurrence* from a long and troublesome journey. They showed him the most heartfelt esteem and presented to him a handwriting from their pious duke Christian.

(B) I took a felucca at Naples to carry me to Rome, that I might not be forced to run over the same sights a second time, and might have *an* opportunity of seeing many things in a road which our voyage-writers have not so particularly described. As in my journey from Rome to Naples I had Horace for my guide, so I had the pleasure of seeing my voyage, from Naples to Rome, described by Virgil. It is, indeed, much easier to trace out the way (which) Æneas took, than that of Horace, because Virgil has marked it out by capes, islands, and other parts of nature, which are not subject to change or decay as *are* towns, cities, and *the* works of art.

Aus Addisson's 'Remarks on Italy.'

III. Literatur.

1. Nennen Sie einige der vorzüglichsten Dramatiker, welche Goethe's Zeitgenossen waren, und erwähnen Sie ihrer besten Werke.

2. Berichten Sie, mit Hervorhebung der besonderen Richtung jedes nachgenannten Autors, was Ihnen über die literarischen Leistungen von *Jean Paul Richter*, *Musäus*, *Matthisson*, *Freiligrath*, *Zschokke* und *Bechstein* bekannt ist.

3. In welche Zeit fällt die Gründung der ersten Romantischen Schule? Welche Aufgabe haben sich die Mitglieder dieser Schule gestellt? Nennen Sie die vornehmsten unter ihnen, und die Schriften, wodurch sie besonders wohlthätig auf unsere moderne Literatur eingewirkt haben. Erwähnen Sie auch der Schriftsteller, die als Häupter der zweiten Romantischen Schule gelten.

JUNIOR CLASS.

HEBREW.

FRIDAY, DECEMBER 20TH:—MORNING, 9 TO 12.

Examiner,.....REV. A. DE SOLA, LL.D.

1. Give the rules for *Sheva*, שוא, quiescent and syllabical; also for distinguishing *Kamets*, long and short, קמץ רחב וקמץ חטוף; and show the effect of *Metheg* on the latter.

2. Give the rules for the definite article, הי הידיעה, and show by examples the changes arising in its punctuation, when it precedes a guttural; show by examples how it is compensated by Dagesh.

3. Explain *Patach* furtive פתח גנובה and composite *Sheva*.

4. Write a brief sketch of the origin and history of the Hebrew language; show its relation to the other Semitic dialects; detail claims put forth for its primitive character; give origin of its vowel system and various periods assigned for the same.

5. Give chief rules for accentuation.

6. Give an account of the *Massorah*; its origin and development; show its importance in defining the biblical text, and in what way it has preserved the genuineness of the same.

7. Describe *Mappik*, *Raphé* and *Makkaph* מפיק רפה ומקף, and show the effects of Makkaph on the accent.

8. Give, with examples, the terminations of nouns in the plural, masculine and feminine; also in the dual.

9. Describe *Dagesh*, lene and forte, דגש קל ודגש חזק, and give the rules by which they are distinguished from each other; also the rules for compensation of Dagesh forte.

10. Show the difference in punctuation of the definite article and interrogative ה; give examples.

11. Write examples, significant words or not, illustrating the rules for Metheg, Mappik, Makkaph, Sheva quiescent, Sheva syllabical, Dagesh lene Dagesh forte, and Patach furtive.

12. Analyze in Hebrew Text Book, page 16, lines 5, 6, 7.

SENIOR CLASS.

HEBREW.

FRIDAY, DECEMBER 20TH :—MORNING, 9 TO 12.

Examiner,.....REV. A. DE SOLA, LL.D.

1. Translate literally Ps. II, and analyze verses 4 and 5 of the same.

2. Write out the verb שמר in the Preterite of *Kal*, and future of *Niphal* forms.

3. Give the rules for adjectives in connection with nouns, and add the pronominal fragments to a noun when in conjunction with an adjective, *e.g.* ערה נאמנה.

4. Conjugate the verb למד in *Piel* future, and participles of *Kal*.

5. Give examples of nouns in fem. sing., masc. and fem. pl., dual, absolute and construct.

6. Show how the construct sing. of masculine nouns is formed, when the nominative is formed with mutable and immutable vowels.

7. Describe Segholates; and show how, notwithstanding their diverse punctuation, they may be distinguished by one rule.

8. Show what contractions are formed when the definite article is preceded by prepositions, and write as an example the noun שור in connection with the def. art. and the prepositions ב, כ, ל, מ.

9. Translate into Hebrew:

Our new Governor has arrived among us, with his honored wife, the daughter of our beloved Queen. May he be like a tree planted by the water-pools that bringeth forth its fruit in its due season. May all that he doeth prosper.

10. Translate into English:

הרשעים לא יקמו במשפט· הלך כמין אשר הדפנו רוח. העץ הזה שרוול על עלגי מים· בתורת ה׳ חפצי ובתורתו אהגה יומם ולילה ישאר ממני ואהנה לכם כל אשר אמרתם עברו את ה׳ ביראה׃

CHEMISTRY AND NATURAL SCIENCES.

FIRST YEAR IN ARTS AND IN APPLIED SCIENCE.

ELEMENTARY CHEMISTRY.

WEDNESDAY, DECEMBER 18TH:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., Ph.D.

1. Convert 45° Fahrenheit into degrees on the Centigrade and Reaumur scales.

2. State and explain the laws of combining proportion.

3. What are the properties of Ozone, and what the best method of detecting it?

4. Explain the difference between combustible bodies and supporters of combustion.

5. Give a classification of naturally occurring waters. Point out, also, the precautions to be taken in the selection of waters for household purposes.

6. What are the normal constituents of the atmosphere, and what their respective uses?

7. How is Nitrous Oxide prepared, and what are its properties?

8. Describe an experiment illustrating the formation of Ammonic Nitrite by the oxydation of Ammonia.

9. Upon what compounds does the illuminating power of coal gas chiefly depend? Describe the preparation of one of them.

10. What are the different allotropic forms of Carbon, and what their principal uses?

SECOND YEAR.

ELEMENTARY BOTANY.

THURSDAY, DECEMBER 12TH:—MORNING, 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. Describe a complete Vegetable Cell, stating its parts and their composition and uses.

2. Explain the modes of multiplication of cells.

3. Explain the manner in which cells are strengthened as to their walls, and modified into fibres.

4. Describe the appearance under the microscope of different kinds of Fibres and Vessels.

5. State the grades of complexity of plants, and the classifications based on this and on histology and reproduction.

6. What are the structures in the bark of Exogens, and in the extremities of their roots.

7. Describe the parts seen in the transverse section of a Leaf.

8. Classify the contents of the Cell-Sap, and explain their uses.

9. Explain the terms Pentastichous, Pinnate, Internode, Crenate, Reniform, Lobed, Mucronate, as applied to leaves.

10. Describe the parts and structures denoted by the following terms.—

Spine,
Aerial Root,
Phyllodium,
Cambium,
Stipule,
Rhizoma.

THIRD YEAR IN ARTS AND MIDDLE YEAR IN APPLIED SCIENCE.

ELEMENTARY ZOOLOGY.

FRIDAY, DECEMBER 13TH:—9 A.M. TO 12.

Examiner,.....J. W. DAWSON, LL.D, F.R.S.

1. Describe the cellular and muscular tissues, with examples.

2. Explain the processes of digestion and absorption of food.

3. Define the primary divisions of the Animal Kingdom, as based on types of nervous system and organs of support.

4. Describe the modifications of the heart and circulatory system in different grades of animals.

5. Explain the structure and functions of gills and lungs.

6. State the nature of fissiparous and gemmiparous reproduction, and the difference between these and ovarian reproduction.

7. What is the definition of the species in Zoology, and how do we arrange species in higher groups?

8. Describe the appearance under the microscope of cilia, blood cells, bone and nerve fibres.

9. What are the structures observed in the humbler *Protozoa*, and their relations to those in higher animals?

FOURTH YEAR IN ARTS, SENIOR YEAR IN APPLIED SCIENCE.

MINERALOGY AND PHYSICAL GEOLOGY, (in part).

WEDNESDAY, DECEMBER 18TH :—9 A.M. TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph. D.

1. What are the relations of the axes in the tetragonal and hexagonal systems of crystallography, and what the principal forms in these systems.

2. Explain the following expressions for forms belonging to the isometric system :

a : a : ∞ a. a : m a : m a.
a : ∞ a : ∞ a. a : a : m a.

3. Point out the principal irregularities observable in crystals.

4. What names are applied to the different kinds of lustre exhibited by minerals, and also to the different degrees of intensity of lustre.

5. Name in proper order the minerals constituting the scale of hardness, and describe the manner of using the scale.

6. How may rocks be classified as to their origin. Explain the terms employed.

7. Explain the causes of the hardening of aqueous sediments, and the special nature and results of concretionary action.

8. Explain the changes effected in organic remains embedded in rocks, and the effects of organic matter in changing the colors of deposits.

9. Explain dip, strike, anticlinal and synclinal arrangements, and unconformability.

10. Explain denudation, and some of the results which it produces in horizontal and inclined strata, and its effects on the relief of the continents.

11. State the data for the determination of the relative ages of stratified rocks, the manner of applying them, and the leading divisions of geological time.

12. Explain the nature and mode of occurrence of faults, verticality, and contortions of beds.

SESSIONAL EXAMINATIONS, 1879.

CLASSICS.

FIRST YEAR.

GREEK.—XENOPHON.—HELLENICS, BOOK II.

TUESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) οἱ δ' Ἀθηναῖοι κατὰ πόδας πλέοντες ὡρμίσαντο τῆς Χερρονήσου ἐν Ἐλαιοῦντι ναυσὶν ὀγδοήκοντα καὶ ἑκατόν. ἐνταῦθα δὴ ἀριστοποιουμένοις αὐτοῖς ἀγγέλλεται τὰ περὶ Λάμψακον, καὶ εὐθὺς ἀνήχθησαν εἰς Σηστόν. ἐκεῖθεν δ' εὐθὺς ἐπισιτισάμενοι ἔπλευσαν εἰς Αἰγὸς ποταμοὺς ἀντίον τῆς Λαμψάκου· διέχει δ' ὁ Ἑλλήσποντος ταύτῃ σταδίους ὡς πεντεκαίδεκα. ἐνταῦθα δὲ ἐδειπνοποιοῦντο. Λύσανδρος δὲ τῇ ἐπιούσῃ νυκτί, ἐπεὶ ὄρθρος ἦν, ἐσήμηνεν εἰς τὰς ναῦς ἀριστοποιησαμένους εἰσβαίνειν, πάντα δὲ παρασκευασάμενος ὡς εἰς ναυμαχίαν καὶ τά παραβλήματα παραβαλών, προείπεν ὡς μηδεὶς κινήσοιτο ἐκ τῆς τάξεως μηδὲ ἀνάξοιτο. οἱ δὲ Ἀθηναῖοι ἅμα τῷ ἡλίῳ ἀνίσχοντι ἐπὶ τῷ λιμένι παρετάξαντο ἐν μετώπῳ ὡς εἰς ναυμαχίαν. ἐπεὶ δὲ οὐκ ἀντανήγαγε Λύσανδρος, καὶ τῆς ἡμέρας ὀψὲ ἦν, ἀπέπλευσαν πάλιν εἰς τοὺς Αἰγὸς ποταμούς. Λύσανδρος δὲ τὰς ταχίστας τῶν νεῶν ἐκέλευσεν ἐπεσθαι τοῖς Ἀθηναίοις, ἐπειδὰν δὲ ἐκβῶσι, κατιδόντας ὅ,τι ποιοῦσιν ἀποπλεῖν καὶ αὐτῷ ἐξαγγεῖλαι. καὶ οὐ πρότερον ἐξεβίβασεν ἐκ τῶν νεῶν πρὶν αὐταὶ ἦκον. ταῦτα δ' ἐποίει τέτταρας ἡμέρας· καὶ οἱ Ἀθηναῖοι ἐπανήγοντο.

(B) ἐκ δὲ τούτου οἱ τριάκοντα, οὐκέτι νομίζοντες ἀσφαλῆ σφίσι τὰ πράγματα, ἐβουλήθησαν Ἐλευσῖνα ἐξιδιώσασθαι, ὥστε εἶναι σφίσι καταφυγήν, εἰ δέησειε. καὶ παραγγείλαντες τοῖς ἱππεῦσιν ἦλθον εἰς Ἐλευσῖνα Κριτίας τε καὶ οἱ ἄλλοι τριάκοντα· ἐξέτασίν τε ποιήσαντες ἐν τοῖς ἱππεῦσι, φάσκοντες εἰδέναι βούλεσθαι πόσοι εἶεν καὶ πόσης φυλακῆς προσδεήσοιντο, ἐκέλευον ἀπογράφεσθαι πάντας· τὸν δὲ ἀπογραψάμενον ἀεὶ διὰ τῆς πυλίδος ἐπὶ τὴν θάλατταν ἐξιέναι. ἐπὶ δὲ τῷ αἰγιαλῷ τοὺς μὲν ἱππέας ἐνθεν καὶ ἐνθεν κατέστησαν, τὸν δ' ἐξιόντα ἀεὶ οἱ ὑπηρέται συνέδουν. ἐπεὶ δὲ πάντες συνειλημμένοι ἦσαν, Λυσίμαχον τὸν ἵππαρχον ἐκέλευον ἀναγαγόντα καταδοῦναι αὐτοὺς τοῖς ἑνδεκα. τῇ δ' ὑστεραίᾳ

εἰς τὸ Ὠιδεῖον παρεκάλεσαν τοὺς ἐν τῷ καταλόγῳ ὁπλίτας καὶ τοὺς ἄλλους ἱππέας. ἀναστὰς δὲ Κριτίας ἔλεξεν, Ἡμεῖς, ἔφη, ὦ ἄνδρες, οὐδὲν ἧττον ὑμῖν κατασκευάζομεν τὴν πολιτείαν ἢ ἡμῖν αὐτοῖς. δεῖ οὖν ὑμᾶς, ὥσπερ καὶ τιμῶν μεθέξετε, οὕτω καὶ τῶν κινδύνων μετέχειν. τῶν οὖν συνειλημμένων Ἐλευσινίων καταψηφιστέον ἐστίν, ἵνα ταὐτὰ ἡμῖν καὶ θαρρῆτε καὶ φοβῆσθε. δείξας δέ τι χωρίον, εἰς τοῦτο ἐκέλευε φανερὰν φέρειν τὴν ψῆφον. οἱ δὲ Λακωνικοὶ φρουροὶ ἐν τῷ ἡμίσει τοῦ Ὠιδείου ἐξωπλισμένοι ἦσαν· ἦν δὲ ταῦτα ἀρεστὰ καὶ τῶν πολιτῶν οἷς τὸ πλεονεκτεῖν μόνον ἐμελεν.

2. Explain the construction of the *oblique cases* in the following extt.. :—(*a*) ὡρμίσαντο τῆς χερρονήσου. (*b*) πόσης φυλακῆς προσδεήσοιντο. (*c*) οὐδὲν ἧττον ὑμῖν * * * ἢ ἡμῖν αὐτοῖς. (*d*) τιμῶν καὶ τῶν κινδύνων. (*e*) ἵνα ταὐτὰ ἡμῖν καὶ θαρρῆτε καὶ φοβῆσθε. (*f*) καὶ τῶν πολίτων οἷς κ.τ.λ.

3. Write explanatory notes (historical), giving dates, on the following:—(*a*) ἐπλευσαν εἰς Αἰγὸς ποταμούς. (*b*) οἷα ἐποίησαν Μηλίους. (*c*) οἱ τριάκοντα. (*d*) ἐπὶ τῶν τετρακοσίων. (*e*) λαβὼν ὁ Θρασύβουλος τοὺς ἀπὸ Φυλῆς.

4. Give as accurately as you can the meaning and the etymology of the following words:—παράσπονδον, σκευοφόρων, εὐημερίας, ἀποκοτταβίσαντα, δρυφάκτοις, οἱ βέλτιστοι, μετοίκων, ἀτίμους, ἐπιτίμους, ἡ Πάραλος, τὰ παραβλήματα, τὸ ξύνθημα.

5. Parse carefully the following verbs, naming their principal parts:—ἆραι, χρῷτο, ἀπολέσωσι, ἐσήμηνεν, ἐροῦντας, διέσωσαν, εἶα, συλλεγῶσιν, ἀπίεναι, ἀνίεναι, κατήεσαν, συνειλημμένων.

6. Write down the *Nom. Sing.* and *Plu.* of the following:—ἀσπίσιν χειμῶνα, τῷ ἡμίσει, ἱππέας, πλήθει, ἀσφαλεῖ. (*b*) Decline:—γίγας, φλόξ, οὖς, γόνυ, εἰς. (*c*) Distinguish between:—οὐδεὶς and μηδείς. αὐτὸς and ὁ αὐτός. ὅδε, οὗτος and ἐκεῖνος.

7. (*a*) Name the *primary* and *secondary* tenses. By what other terms are they designated, and why? (*b*). Name the *transitive* and *intransitive* tenses of ἵστημι. (*c*) Give the *Fut.* in all voices of:—θαυμάζω, ἐπαινέω, τέμνω, εὑρίσκω.

8. Translate into Greek:—

(1) The king was pleased with those who managed well the affairs of the state. (2) The general and his soldiers marched into the enemy's country and laid waste the greater part of it. (3) The same things are not always in the power of the same man. (4) The slave slew his master, and was afterwards found guilty of murder and condemned to death. (5) Æschylus, the poet, lived in the times of

the Persian wars. (6) He said to the citizens: If you do this you will greatly benefit the state and do me a very great favour. (7) The general used to praise all those soldiers whom he saw acting well (8) The master came to find his slave who had fled from his house.

INTERMEDIATE EXAMINATION, 1879.

TUESDAY, APRIL 1st:—MORNING, 9 TO 12.

GREEK.—ISOCRATES—THE PANEGYRICUS.

Examiners,..... { REV. GEORGE CORNISH, LL.D. / REV. GEORGE WEIR, M.A.

1. Translate:—

(A) Οὐ τοίνυν, ἐπειδὴ τὰ μέγιστα συνδιέπραξε, τῶν ἄλλων ὀλιγώρησεν, ἀλλ' ἀρχὴν μὲν ταύτην ἐποιήσατο τῶν εὐεργεσιῶν, τροφὴν τοῖς δεομένοις εὑρεῖν, ἥνπερ χρὴ τοὺς μέλλοντας καὶ περὶ τῶν ἄλλων καλῶν καλῶς διοικήσειν, ἡγουμένη δὲ τὸν βίον τὸν ἐπὶ τούτοις μόνον οὔπω τοῦ ζῆν ἐπιθυμεῖν ἀξίως ἔχειν οὕτως ἐπεμελήθη καὶ τῶν λοιπῶν, ὥστε τῶν παρόντων τοῖς ἀνθρώποις ἀγαθῶν, ὅσα μὴ παρὰ τῶν θεῶν ἔχομεν, ἀλλὰ δι' ἀλλήλους ἡμῖν γέγονε, μηδὲν μὲν ἄνευ τῆς πόλεως τῆς ἡμετέρας εἶναι, τὰ δὲ πλεῖστα διὰ ταύτην γεγενῆσθαι παραλαβοῦσα γὰρ τοὺς Ἕλληνας ἀνόμως ζῶντας καὶ σποράδην οἰκοῦντας, κατοὺς μὲν ὑπὸ δυναστειῶν ὑβριζομένους, τοὺς δὲ δι' ἀναρχίαν ἀπολλυμένους, καὶ τούτων τῶν κακῶν αὐτοὺς ἀπήλλαξε, τῶν μὲν κυρία γενομένη, τοῖς δ' αὐτὴν παράδειγμα ποιήσασα· πρώτη γὰρ καὶ νόμους ἔθετο καὶ πολιτείαν κατεστήσατο. δῆλον δ' ἐκεῖθεν· οἱ γὰρ ἐν ἀρχῇ περὶ τῶν φονικῶν ἐγκαλέσαντες καὶ βουληθέντες μετὰ λόγου καὶ μὴ μετὰ βίας διαλύσασθαι τὰ πρὸς ἀλλήλους, ἐν τοῖς νόμοις τοῖς ἡμετέροις τὰς κρίσεις ἐποιήσαντο περὶ αὐτῶν.

(B) Ἡγοῦμαι δ' εἴ τινες ἄλλοθεν ἐπελθόντες θεαταὶ γένοιντο τῶν παρόντων πραγμάτων, πολλὴν ἂν αὐτοὺς καταγνῶναι μανίαν ἀμφοτέρων ἡμῶν, οἵτινες οὕτω περὶ μικρῶν κινδυνεύομεν, ἐξὸν ἀδεῶς πολλὰ κεκτῆσθαι, καὶ τὴν Ἀσίαν καρποῦσθαι. καὶ τῷ μὲν οὐδὲν προὐργιαίτερόν ἐστιν ἢ σκοπεῖν, ἐξ ὧν μηδέποτε παυσόμεθα πρὸς ἀλλήλους πολεμοῦντες· ἡμεῖς δὲ τοσούτου δέομεν συγκρούειν τι τῶν ἐκείνου πραγμάτων ἢ ποιεῖν στασιάζειν, ὥστε καὶ τὰς διὰ τύχην αὐτῷ γεγενημένας ταραχὰς συνδιαλύειν ἐπιχειροῦμεν, οἵτινες καὶ τοῖν στρατοπέδοιν τοῖν περὶ Κύπρον ἐῶμεν αὐτὸν τῷ μὲν χρῆσθαι, τὸ δὲ πολιορκεῖν, ἀμφοτέροιν αὐτοῖν τῆς Ἑλλάδος ὄντοιν. οἵ τε γὰρ ἀφεστῶτες πρὸς ἡμᾶς τ' οἰκείως ἔχουσι καὶ Λακεδαιμονίοις σφᾶς αὐτοὺς ἐνδιδόασιν, τῶν τε μετὰ Τειριβάζου στρατευομένων καὶ τοῦ πεζοῦ τὸ χρησιμώτατον ἐκ τῶνδε τῶν τόπων ἠθροισται, καὶ τοῦ ναυτικοῦ τὸ πλεῖστον ἀπ' Ἰωνίας συμπέπλευκεν, οἷ πολὺ ἂν ἥδιον κοινῇ τὴν Ἀσίαν ἐπόρθουν ἢ πρὸς ἀλλήλους ἕνεκα μικρῶν ἐκινδύνευον.

(C) Ἔχοντες γὰρ χώραν μὲν ὡς πρὸς τὸ πλῆθος τῶν πολιτῶν ἐλαχίστην ἀρχὴν δὲ μεγίστην, κεκτημένοι τριήρεις διπλασίας μὲν ἢ σύμπαντες οἱ ἄλλοι, δυναμένας δὲ πρὸς δὶς τοσαύτας κινδυνεύειν, ὑποκειμένης τῆς Εὐβοίας ὑπὸ τὴν Ἀττικὴν, ἡ καὶ πρὸς τὴν ἀρχὴν τὴν τῆς θαλάττης εὐφυῶς εἶχε καὶ τὴν ἄλλην ἀρετὴν ἁπασῶν τῶν νήσων διέφερε, κρατοῦντες αὐτῆς μᾶλλον ἢ τῆς ἡμετέρας αὐτῶν, καὶ πρὸς τούτοις εἰδότες καὶ τῶν Ἑλλήνων καὶ τῶν βαρβάρων τούτους μάλιστ εὐδοκιμοῦντας ὅσοι τοὺς ὁμόρους ἀναστάτους ποιήσαντες ἄφθονον καὶ ῥᾳθυμον αὑτοῖς κατεστήσαντο τὸν βίον, ὅμως οὐδὲν τούτων ἡμᾶς ἐπῆρε περὶ τοὺς ἔχοντας τὴν νῆσον ἐξαμαρτεῖν, ἀλλὰ μόνοι δὴ τῶν μεγάλην δύναμιν λαβόντων περιείδομεν ἡμᾶς αὐτοὺς ἀπορωτέρους ζῶντας τῶν δουλεύειν αἰτίαν ἐχόντων.

2. Explain carefully the construction of:—(*a*) παυσάμενοι τῆς πρὸς ἡμᾶς αὐτους φιλονικίας κοινῇ τοῖς βαρβάροις πολεμήσωμεν. (*b*) οἳ τοῦ μὴ θηριωδῶς ζῆν ἡμᾶς αἴτιοι γεγόνασι. (*c*) πολλῶν ὑπαρχουσῶν ἡμῖν εὐεργεσιῶν εἰς τὴν πόλιν. (*d*) ἀδελφὰ τῶν εἰρημένων. (*e*) πολλὴν ἂν αὐτοὺς καταγνῶναι μανίαν ἀμφοτέρων ἡμῶν.

3. Parse the following verbs:—παρείληφεν, κατέστημεν, κατέστησαν, ἐπιτιμῷεν, εἰάθησαν, ἀπελείφθη, διατριφθέντος, διενεγκοῦσι, κατέδειξε, συνειδυῖα, φθήσονται, καταγνῶναι.

4. Give as accurately as you can the meaning, and the etymology of the following words:—ὑπερβολή, σοφιστῶν, ὑπογνίον, μιγάδες, ἀναστατος, ἀργόν, ἰδιῶται, ἡγεμονία, ἀκέραιος, προὐργιαίτερον.

5. Explain the meaning of the following:—(1) αὐτόχθονες ὄντες. (2) περιοῖκοι. (3) τῶν δεκαρχιῶν. (4) κατάγειν. (5) μετοικεῖν. (6) Λακωνίζειν (7) εἰλωτεύειν. (8) αἱ πανηγύρεις.

6. Write short explanatory historical notes on:—(1) Ἡρακλέους παῖδες. (2) Ἄδραστος ὁ Ταλαοῦ. (3) αὐτοὶ πλείους ἐν τρισὶ μησὶν ἀκριτους ἀποκτείναντες ὧν ἡ πόλις ἐπὶ τῆς ἀρχῆς ἁπάσης ἔκρινεν. (4) τὴν παροῦσαν εἰρήνην.

7. Give the force and meaning of the propositions in the following:—(1) ὑπὲρ τοὺς ἰδιώτας. (2) ὑπὲρ ἐμαυτοῦ θρασυνάμενος. (3) ἐφ' ἑκατέρας ἠπείρου πόλεις. (4) ἐπὶ δουλείᾳ * * Ἑλλήνων τὸν βάρβαρον θεραπεύοντες. (5) ἐπὶ τάδε Φασήλιδος. (6) πρὸς ἀργύριον εὐδαιμονίαν ἔκρινον. (7) καθ' ὅλης τῆς Ἑλλάδος ἑστήκασιν.

8. Distinguish between the meanings of:—ἔθνη and γένη, ἀριστεία and ἀριστεῖα, βασίλεια and βασιλεία, ἄστη and πόλεις, ἱερὰ and νεώς, Κύθηρα and Κυθήρα, δοριάλωτοι and ὠνητοὶ and οἰκότριβες, ἡγεῖσθαί τινος and ἡγ. τινί.

9. (*a*) Explain the use of the *Accusative Absolute*. (*b*) Enumerate the various uses of the Participle to define the circumstances of an action.

10. Write a sketch of the life of Isocrates. (*b*) Point out the leading characteristics, grammatical and rhetorical, of his style. (*c*) State briefly the argument of the Panegyricus, and give its proximate date.

THIRD YEAR.

GREEK.—LYSIAS.—ORATIO FUNEBRIS.

MONDAY, APRIL 7TH, MORNING, 9 to 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

(A) Καὶ γάρ τοι καὶ φύντες καλῶς καὶ γνόντες ὅμοια, πολλὰ μὲν καλὰ καὶ θαυμαστὰ οἱ πρόγονοι τῶν ἐνθάδε κειμένων εἰργάσαντο, ἀείμνηστα δὲ καὶ μεγάλα καὶ πανταχοῦ οἱ ἐξ ἐκείνων γεγονότες τρόπαια διὰ τὴν αὐτῶν ἀρετὴν κατέλιπον. μόνοι γὰρ ὑπὲρ ἁπάσης τῆς Ἑλλάδος πρὸς πολλὰς μυριάδας τῶν βαρβάρων διεκινδύνευσαν. ὁ γὰρ τῆς Ἀσίας βασιλεὺς οὐκ ἀγαπῶν τοῖς ὑπάρχουσιν ἀγαθοῖς, ἀλλ' ἐλπίζων καὶ τὴν Εὐρώπην δουλώσεσθαι, ἔστειλε πεντήκοντα μυριάδας στρατιάν. ἡγησάμενοι δέ, εἰ τήνδε τὴν πόλιν ἡ ἐκοῦσαν φίλην ποιήσαιντο ἢ ἄκουσαν καταστρέψαιντο, ῥᾳδίως τῶν ἄλλων Ἑλλήνων ἄρξειν, ἀπέβησαν εἰς Μαραθῶνα, νομίσαντες οὕτως ἂν ἐρημοτάτους εἶναι συμμάχων τοὺς Ἕλληνας, εἰ ἔτι στασιαζούσης τῆς Ἑλλάδος ᾧ τινι χρὴ τρόπῳ τοὺς ἐπιόντας ἀμύνασθαι, τὸν κίνδυνον ποιήσαιντο. ἔτι δ' αὐτοῖς ἐκ τῶν προτέρων ἔργων περὶ τῆς πόλεως τοιαύτη δόξα παρειστήκει, ὡς εἰ μὲν πρότερον ἐπ' ἄλλην πόλιν ἴασιν, ἐκείνοις καὶ Ἀθηναίοις πολεμήσουσι· προθύμως γὰρ τοῖς ἀδικουμένοις ἥξουσι βοηθήσοντες· εἰ δ' ἐνθάδε πρῶτον ἀφίξονται, οὐδένας ἄλλους Ἑλλήνων τολμήσειν ἑτέρους σώζοντας φανερὰν ἔχθραν πρὸς ἐκείνους ὑπὲρ αὐτῶν καταθέσθαι.

(B) Ὑστέρῳ δὲ χρόνῳ Ἑλληνικοῦ πολέμου καταστάντος διὰ ζῆλον τῶν γηγενημένων καὶ φθόνον τῶν πεπραγμένων, μέγα μὲν ἅπαντες φρονοῦντες, μικρῶν δ' ἐγκλημάτων ἕκαστοι δέομενοι, ναυμαχίας Ἀθηναίοις πρὸς Αἰγινήτας καὶ τοὺς ἐκείνων συμμάχους γενομένης ἑβδομήκοντα τριήρεις αὐτῶν ἐλάμβανον· πολιορκούντων δὲ κατὰ τὸν αὐτὸν χρόνον Αἴγυπτόν τε καὶ Αἴγιναν, καὶ τῆς ἡλικίας ἀπούσης ἔν τε ταῖς ναυσὶ καὶ ἐν τῷ πεζῷ στρατεύματι, Κορίνθιοι καὶ οἱ ἐκείνων σύμμαχοι, ἡγούμενοι ἢ εἰς ἔρημον τὴν χώραν ἐμβαλεῖν ἢ ἐξ Αἰγίνης ἄξειν τὸ στρατόπεδον, ἐξελθόντες πανδημεὶ Γεράνειαν κατέλαβον· Ἀθηναῖοι δὲ τῶν μὲν ἀπόντων, τῶν δ' ἐγγὺς ὄντων, οὐδένα ἐτόλμησαν μεταπέμψασθαι· ταῖς δ' αὐτῶν ψυχαῖς πιστεύσαντες καὶ τῶν ἐπιόντων καταφρονήσαντες οἱ γεραίτεροι καὶ οἱ τῆς ἡλικίας ἐντὸς γεγονότες ἠξίουν αὐτοὶ μόνοι τὸν κίνδυνον ποιήσασθαι, οἱ μὲν ἐμπειρίᾳ τὴν ἀρετήν, οἱ δὲ φύσει κεκτημένοι.

(C) Ἀλλὰ γὰρ οὐκ οἶδ' ὅ τι δεῖ τοιαῦτα ὀλοφύρεσθαι· οὐ γὰρ ἐλανθάνομεν ἡμᾶς αὐτοὺς ὄντες θνητοί· ὥστε τί δεῖ, ἃ πάλαι προσεδοκῶμεν πείσεσθαι, ὑπὲρ τούτων νῦν ἀχθεσθαι, ἢ λίαν οὕτω βαρέως φέρειν ἐπὶ ταῖς τῆς φύσεως συμφοραῖς, ἐπισταμένους ὅτι ὁ θάνατος κοινὸς καὶ τοῖς χειρίστοις καὶ τοῖς βελτίστοις; οὔτε γὰρ τοὺς πονηροὺς ὑπερορᾷ οὔτε τοὺς ἀγαθοὺς θαυμάζει, ἀλλ' ἴσον ἑαυτὸν παρέχει πᾶσιν. εἰ μὲν γὰρ οἷόν τε ἦν τοῖς τοὺς ἐν τῷ πολέμῳ κινδύνους διαφυγοῦσιν ἀθανάτους εἶναι τὸν λοιπὸν χρόνον, ἄξιον τοῖς ζῶσι τὸν ἅπαντα χρόνον πενθεῖν τοὺς τεθνεῶτας· νῦν δὲ ἥ τε φύσις καὶ νόσων ἥττων καὶ γήρως, ὅ τε δαίμων ὁ τὴν ἡμετέραν μοῖραν εἰληχὼς ἀπαραίτητος.

2. (*a*) How do you distinguish between the *genuineness* and *authenticity* of a document? (*b*) On what grounds has the genuineness of the *Oratio Funebris* been questioned? What speech of what other orator bears a striking resemblance to it? (*c*) On what occasion were such orations as this made, and where were they delivered at Athens? (*d*) Name others of the same character.

3. Name, with dates, the chief of the *Decem Attici Oratores*. What place did Lysias occupy among them? What circumstances were favourable to the cultivation of oratory at Athens in contrast to other Greek states?

4. (*a*) Explain the historical references of extt. (A) and (B), giving dates. What was the period of the Athenian Supremacy in the affairs of Greece? (*b*) Define the geographical situation of Thermodon, Geranea, Aegina, Phyle, Piræus.

5. Explain carefully the use of the oblique cases in the following:—(*a*) *οὐκ ἀγαπῶν τοῖς ὑπάρχουσιν ἀγαθοῖς* (What other case might have been used?). (*b*) *οὐδ' ᾠήθησαν δεῖν ἑτέροις τῆς σωτηρίας χάριν εἰδέναι.* (*c*) *καταφρονήσας τῆς Ἑλλάδος, ἐψευσμένος τῆς ἐλπιδος, ἀτιμαζόμενος τῷ γεγενημένῳ.* (*d*) *ἐλανθάνομεν ἡμᾶς αὐτοὺς ὄντες θνητοί*—(Note the use of the *Nom.*, and turn the ext. into Latin).

6. (*a*) *ἐπηνώρθωσαν*:—Parse this form, and cite other instances of a like formation. (*b*) Distinguish between:—*ἀριστεῖα* and *ἀριστεία*, *ναναγίων* and *ναναγιῶν*. *σωτήρια* and *σωτηρία*. *ἀπιέναι* and *ἀφιέναι*. *γῆρας* and *γηράς*. *κράτος* and *κρατός*. *ζῆλος* and *φθόνος*. *ὁ ἄνθρωπος* and *τὸ ἀνθρωπος*. *εἰς ἐρημον τὴν χώραν* and *εἰς τὴν ἐρημον χώραν*.

7. (*a*) Parse the following verbs:—*βλῆτο, ἔστασαν, καλέσαι, ἠνώχλει, ἐμολον*. (*b*) Mention the principal parts of:—*ἐλαύνω, πίνω, στορέννυμι, πάσχω, τρέπω, τρέφω*. (*c*) Write down the 3rd Sing. Pres. Ind., the Pres. Part., and the Pres. Inf., of *εἰμί, εἶμι*, and *ἴημι*.

8. State and illustrate the correct use of the *Genitive* and *Accusative Absolute*, severally.

B. A. ORDINARY EXAMINATION.

THURSDAY, APRIL 10TH:—MORNING, 9 TO 12.

GREEK.—{DEMOSTHENES.—THE OLYNTHIACS. AESCHYLUS. PROMETHEUS VINCTUS.

Examiner,..... .....REV. GEORGE CORNISH LL.D.

1. Translate:—

(A) Ὁ μὲν οὖν παρὼν καιρός, ὦ ἄνδρες Ἀθηναῖοι, μόνον οὐχὶ λέγει φωνὴν ἀφιείς, ὅτι τῶν πραγμάτων ὑμῖν ἐκείνων αὐτοῖς ἀντιληπτέον ἐστίν, εἴπερ ὑπὲρ σωτηρίας αὐτῶν φροντίζετε· ἡμεῖς δ' οὐκ οἶδ' ὁντινά μοι δοξοῦμεν ἔχειν τρόπον πρὸς αὐτά. ἔστι δὴ τὰ γ' ἐμοὶ δοκοῦντα, ψηφίσασθαι μὲν ἤδη τὴν βοήθειαν, καὶ παρασκευάσασθαι τὴν ταχίστην, ὅπως ἐνθένδε βοηθήσετε, καὶ μὴ πάθητε ταὐτόν, ὅπερ καὶ πρότερον, πρεσβείαν δὲ πέμπειν, ἥτις ταῦτ' ἐρεῖ καὶ παρέσται τοῖς πράγμασιν· ὡς ἔστι μάλιστα τοῦτο δέος, μὴ πανοῦργος ὢν καὶ δεινὸς ἄνθρωπος πραγμασι χρῆσθαι, τὰ μὲν εἰκών, ἡνικ' ἂν τύχῃ, τὰ δ' ἀπειλῶν, (ἀξιόπιστος δ' ἂν εἰκότως φαίνοιτο,) τὰ δ' ἡμᾶς διαβάλλων καὶ τὴν ἀπουσίαν τὴν ἡμετέραν, τρέψηται καὶ παρασπάσηταί τε τῶν ὅλων πραγμάτων.

(B) Τίνος γὰρ ἕνεκα, ὦ ἄνδρες Ἀθηναῖοι, νομίζετε, τοῦτον μὲν φεύγειν τὸν πόλεμον πάντας, ὅσους ἂν ἐκπέμψητε στρατηγούς, ἰδίους δ' εὑρίσκειν πολέμους, εἰ δεῖ τι τῶν ὄντων καὶ περὶ τῶν στρατηγῶν εἰπεῖν; ὅτι ἐνταῦθα μέν ἐστι τὰ ἆθλα, ὑπὲρ ὧν ἐστὶν ὁ πόλεμος, ὑμετέρα· Ἀμφίπολις ἂν ληφθῇ, παραχρῆμα αὐτὴν ὑμεῖς κομιεῖσθε· οἱ δὲ κίνδυνοι τῶν ἐφεστηκότων ἰδιοι, μισθὸς δ' οὐκ ἔστιν· ἐκεῖ δὲ κίνδυνοι μὲν ἐλάττους, τὰ δὲ λήμματα τῶν ἐφεστηκότων καὶ τῶν στρατιωτῶν, Λάμψακος, Σίγειον, τὰ πλοῖα ἃ συλῶσιν. ἐπὶ οὖν τὸ λυσιτελοῦν αὐτοῖς ἕκαστοι χωροῦσιν. ὑμεῖς δέ, ὅταν μὲν εἰς τὰ πράγματα ἀποβλέψητε φαύλως ἔχοντα, τοὺς ἐφεστηκότας κρίνετε, ὅταν δέ, δόντες λόγον, τὰς ἀνάγκας ἀκούσητε ταύτας, ἀφίετε. περίεστι τοίνυν ὑμῖν ἀλλήλοις ἐρίζειν καὶ διεστάναι, τοῖς μὲν ταῦτα πεπεισμένοις, τοῖς δὲ ταῦτα· τὰ κοινὰ δ' ἔχειν φαύλως. πρότερον μὲν γάρ, ὦ ἄνδρες Ἀθηναῖοι, εἰσεφέρετε κατὰ συμμορίας, νυνὶ δὲ πολιτεύεσθε κατὰ συμμορίας. ῥήτωρ ἡγεμὼν ἑκατέρων, καὶ στρατηγὸς ὑπὸ τούτῳ, καὶ οἱ βοησόμενοι, οἱ τριακόσιοι· οἱ δ' ἄλλοι προσενέμησθε οἱ μὲν ὡς τούτους, οἱ δὲ ὡς ἐκείνους.

(C) Τί δὴ τὸ πάντων αἴτιον τούτων, καὶ τί δή ποτε ἅπαντ' εἶχε καλῶς τότε καὶ νῦν οὐκ ὀρθῶς; ὅτι τὸ μὲν πρότερον στρατεύεσθαι τολμῶν αὐτὸς ὁ δῆμος δεσπότης τῶν πολιτευομένων ἦν καὶ κύριος αὐτὸς ἁπάντων τῶν ἀγαθῶν, καὶ ἀγαπητὸν ἦν παρὰ τοῦ δήμου τῶν ἄλλων ἑκάστῳ καί τιμῆς καὶ ἀγαθοῦ τινος καταλαβεῖν· νῦν δὲ τοὐναντίον κύριοι μὲν οἱ πολιτευόμενοι τῶν ἀγαθῶν, καὶ

διὰ τούτων ἅπαντα πράττεται, ὑμεῖς δ' ὁ δῆμος ἐκνενευρισμένοι καί περιῃρημένοι χρήματα καὶ συμμάχους ἐν ὑπηρέτου καὶ προσθήκης μέρει γεγένησθε, ἀγαπῶντες ἐὰν μεταδιδῶσι θεωρικῶν ὑμῖν ἢ βοηδρόμια πέμψωσιν οὗτοι, καὶ τὸ πάντων ἀνδρειότατον, τῶν ὑμετέρων αὐτῶν χάριν προσοφείλετε. οἱ δ' ἐν αὐτῇ τῇ πόλει καθείρξαντες ὑμᾶς ἐπάγουσιν ἐπὶ ταῦτα καὶ τιθασεύουσι χειροήθεις αὑτοῖς ποιοῦντες.

2. (*a*) I next. (A), one manuscript has *σωτηρίας αὐτῶν*;—with what difference of meaning? Why is *αὐτῶν* to be preferred? (*b*) *ὅπως βοηθήσετε καὶ μὴ πάθητε ταὐτὸν ὅπερ καὶ πρότερον* :—Explain the change of *Mood*, and note the import of *καί*. (*c*) In ext. (C), for *Βοηδρόμια* and *ἀνδρειότατον* there are the readings *βοίδια* and *ἀνανδρότατον* :—distinguish between them.

3. Explain the grammatical construction of:—(*a*) *σκοπεῖσθε εἰς τί ποτ' ἐλπὶς ταῦτα τελευτῆσαι.* (*b*) *δέδοικα, μὴ τὸν αὐτὸν τρόπον ἐπὶ πολλῷ φανῶμεν ζητοῦντες.* (How would you express this in Latin?) (*c*) *χωρὶς γὰρ τῆς περιστάσης ἂν ἡμᾶς αἰσχύνης, εἰ καθυφείμεθα, κ. τ. λ.* (To what mood and tense are *περιστάσης ἂν* equivalent?) (*d*) *δειναῖ συγκρύψαι φοβερὸν προσπολεμῆσαι* :—Explain the use of the Infinitive. (*e*) *οὐ μὴν ἀλλ' ἐγωγε* :—Explain the force of this expression and supply the ellipsis.

4. Explain the metaphors, and give the literal signification of :—*ἐκνενευρισμένοι, προσθήκης, τιθασεύουσι χειροήθεις, ἀφορμάς, ὑποστείλασθαι, πεφηνάκικεν, ἀνεχαίτισε, συγκεκροτημένοι, προπέποται, ἠνθησεν, φωρᾶται, καταρρεῖ.*

5. Translate :—

(D) ΙΩ. *ἦ γάρ ποτ' ἐστὶν ἐκπεσειν ἀρχῆς Δία;*
ΠΡ. *ἥδοι' ἄν, οἶμαι, τήνδ' ἰδοῦσα συμφοράν.*
ΙΩ. *πῶς δ' οὐκ ἄν, ἥτις ἐκ Διὸς πάσχω κακῶς;*
ΠΡ. *ὡς τοίνυν ὄντων τῶνδέ σοι μαθεῖν πάρα.*
ΙΩ. *πρὸς τοῦ τύραννα σκῆπτρα συληθήσεται;*
ΠΡ. *αὐτὸς πρὸς αὑτοῦ κενοφρόνων βουλευμάτων.*
ΙΩ. *ποίῳ πρόπῳ; σήμηνον, εἰ μή τις βλάβη.*
ΠΡ. *γαμεῖ γάμον τοιοῦτον ᾧ ποτ' ἀσχαλᾷ.*
ΙΩ. *θέορτον, ἢ βρότειον; εἰ ῥητὸν, φράσον.*
ΠΡ. *τί δ' ὔντιν'; οὐ γὰρ ῥητὸν αὐδᾶσθαι τόδε.*
ΙΩ. *ἦ πρὸς δάμαρτος ἐξανίσταται θρόνων;*
ΠΡ. *ἣ τέξεταί γε παῖδα φέρτερον πατρός.*
ΠΡ. *οὐδ ἔστιν αὐτῷ τῆσδ' ἀποστροφὴ τύχης;*
ΠΡ. *οὐ δῆτα, πλὴν ἐὰν ἐγὼ 'κ δεσμῶν λυθῶ.*
ΙΩ. *τίς οὖν ὁ λύσων σ' ἐστὶν ἄκοντος Διός;*

ΠΡ. τῶν σῶν τιν' αὐτὸν ἐκγόνων εἶναι χρεών.
ΙΩ. πῶς εἶπας ; ἦ 'μὸς παῖς σ' ἀπαλλάξει κακῶν ;
ΠΡ. τρίτος γε γένναν πρός δέκ' ἄλλαισιν γοναῖς.
ΙΩ. ἦδ' οὐκ ἔτ' εὐξύμβλητος ἡ χρησμῳδία.
ΠΡ. καὶ μή τι σαυτῆς ἐκμαθεῖν ζήτει πόνους.

(E) ΠΡ. εἰδότι τοί μοι τάσδ' ἀγγελίας
δδ' ἐθώϋξεν, πασχειν δὲ κακῶς
ἐχθρὸν ὑπ' ἐχθρῶν οὐδὲν ἀεικές.
πρὸς ταῦτ' ἐπ' ἐμοὶ ῥιπτέσθω μὲν
πυρὸς ἀμφήκης βόστρυχος, αἰθὴρ δ'
ἐρεθιζέσθω
βροντῇ σφακέλῳ τ' ἀγρίων ἀνέμων·
χθόνα δ' ἐκ πυθμένων αὐταις ῥίζαις
πνεῦμα κραδαίνοι,
κῦμα δὲ πόντου τραχεῖ ῥοθίῳ
ξυγχώσειεν τῶν τ' οὐρανίων
ἄστρων διόδους, ἔς τε κελαινὸν
Τάρταρον ἄρδην ῥίψειε δέμας
τοὐμὸν ἀνάγκης στερραῖς δίναις·
πάντως ἐμέ γ' οὐ θανατώσει.
ΕΡ. τοιάδε μέντοι τῶν φρενοπλήκτων
βουλεύματ' ἐπη τ' ἐστὶν ἀκοῦσαι.
τί γὰρ ἐλλείπει μὴ παραπαίειν
ἡ τοῦδε τύχη ; τί χαλᾷ μανιῶν ;
ἀλλ' οὖν ὑμεῖς γ' αἱ πημοσύναις
ξυγκάμνουσαι ταῖς τοῦδε τόπων
μετά τοι χωρεῖτ' ἐκ τῶνδε θοῶς,
μὴ φρένας ὑμῶν ἠλιθιώσῃ
βροντῆς μύκημ' ἀτέραμνον.

6. (*a*) *ἦ γάρ, γέ, οὐ δῆτα, οὖν, ἀλλ' οὖν, ἦ μήν, καὶ μήν* :—Give as carefully as you can the import of these particles. (*b*) In vs. 3, ext. (D), give the force of *ἥτις πάσχω*, and express it in Latin. (*c*) Construe vs. 4, and show the force of *ὡς*. (*d*) Construe vss. 5 and 6, showing the government of *σκῆπτρα* and *βουλευμάτων*. (*e*) *ἡ 'μὸς παῖς, οὐμὸς παῖς* :—distinguish. (*f*) *ῥιπτέσθω * * ῥίψειε* :—Why is the mood changed? (*g*) Note the subject and object of *συγχώσειεν*. (*h*) *ὡς ἂν τὸ Δῖον ὄμμα λωφήσῃ πόθου* :—show the force of *ἂν* thus used with *ὡς* and *ὅπως*.

7. (*a*) Comment on the meaning and derivation of the following words :—*βρυχία, ἀπρόοπτον, ἀπέραντον, παρέσυρας, δαφοινός, πανήμερος, ἀκρατής, πεδάρσιοι, ἁπλῷ, ἄϊστον, ἀνήμεροι, ψελλόν, ἀήσυροι, προσείλους*.

8. Give the scale of the metre, and scan the last three vss. of extt. (D) and (E), severally.

FIRST YEAR.

LATIN.—CICERO.—SELECT LETTERS.

WEDNESDAY, APRIL 2ND :—MORNING, 9 to 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Bibulus hominum *admiratione et benevolentia* in caelo est; edicta eius et contiones describunt et legunt; novo quodam genere in summam gloriam venit: populare nunc nihil tam est quam odium *popularium*. Haec quo sint eruptura, timeo; sed, *si* dispicere quid *coepero, scribam* ad te apertius. Tu, si me amas tantum, quantum profecto amas, expeditus facito ut sis, si inclamaro, ut accurras; sed do operam et dabo ne sit necesse. Quod scripseram et Furio scripturum, nihil necesse est tuum nomen mutare; me faciam Laelium et te Atticum; neque utar meo chirographo neque signo, si modo erunt *eius modi* litterae, quas in alienum incidere *nolim*. Diodotus mortuus est; reliquit nobis HS. fortasse centiens. Comitia Bibulus [cum] Archilochio edicto in ante diem xv. Kal. Novembr. distulit. A Vibio libros accepi: poëta ineptus, nec tamen scit nihil et est non inutilis. Describo et remitto.

(B) Tu me *velim* de ratione Gallici belli certiorem *facias;* ego enim *ignavissimo cuique* maximam fidem habeo. Sed, ut ad epistolas tuas redeam, *cetera belle;* illud miror: quis solet eodem exemplo plures dare, qui sua manu scribit? nam quod in palimpsesto, laudo equidem parsimoniam; sed miror, quid in illa chartula fuerit, quod delere malueris quam haec non scribere, nisi forte tuas formulas; non enim puto te meas epistolas delere ut reponas tuas. An hoc significas, nihil fieri, frigere te, ne chartam quidem tibi suppeditare? iam ista tua culpa est, qui verecundiam tecum *extuleris* et non hic nobiscum *reliqueris*. Ego te Balbo, cum ad vos proficiscetur, more Romano commendabo. Tu, si intervallum longius erit mearum litterarum, ne sis admiratus; eram enim afuturus mense Aprili. Has litteras scripsi in Pomptino, cum ad villam M. Aemilii Philemonis *devertissem*, ex qua iam audieram fremitum clientium meorum, quos quidem tu mihi conciliasti; nam Ulubris *honoris mei causa* vim maximam ranunculorum se commosse constabat. Cura ut valeas. VI. Id. April. de Pomptino.

2. Construe carefully the words in Italics in the above extract, referring to the rules of syntax on which the construction in each case depends.

3. Explain the following references:—(1) In Pomptino. (2) More Romano. (3) Ab Italia non satis abesse. (4) Stabianum perforasti. (5) ἀλληγορίαις obscurabo. (6) Noster Aesopus. (7) Operam et oleum perdidisse. (8) Familiam ducit. (9) Archilochio edicto. (10) Graeculam cautionem chirographi mei.

4. (*a*) Expand, translate, and date according to our method, the following:—(1) D. a. d. VI. K. Decemb. (2) D. a. d. III. Non. Oct. (3) Acta Kal. Sext. (4) HS. centiens. Quod DCCC. aperuisti (5) L. J. Caes. C. M. Figulo, Coss. (*b*) Give the date and the occasion on which ext. (B) was written.

5. Parse the following verbs, giving the *Present Infinitive* of each:—Proficiscare, commosse, conscidi, relaxaro, decesse, exegero, periremus, subisses, luxerunt, accesserit, rejectum iri, sustulimus.

6. Give as accurately as you can the meaning and derivation of:—annona, cautio, palimpsesto, contio, fabellam, praevaricatio, creterrarum, prudentia, kalendæ, nonæ, idus, scrupulos.

7. (*a*) Decline the following words:—judicibus, consolationi, criminibus, pĭlo, pīlo, lepōre, lepŏre, uni. (*b*) Write down the (1st sing) *Imperf. Subjunct.*, *Perf Indic.*, *Fut. Indic.*, with the supine, of:—rumpo, utor, fero, nitor. (*c*) State the fundamental distinction between the *Dative* and *Ablative*, and name their leading uses.

9. Translate into Latin:—

1. The next year, Lucius Cornelius Scipio, brother of the great Africanus, and Caius Laelius, were made consuls. 2. Duilius was the first of the Romans to conquer in a naval battle. 3. Horatius slew his sister with his own hand. 4. He taught his sons justice, truth and temperance, virtues of the highest value. 5. Achilles was a man of very great strength and remarkable beauty. 6. After the expulsion of the kings, a new office was created at Rome, called the dictatorship, greater than the consulship. 7. He sa that his father was present; he said that his father would be present; he said that his father had been present. 8. Arria gave her husband a sword to kill himself with.

INTERMEDIATE EXAMINATION.

LATIN.—PLINY.—SELECT LETTERS.

WEDNESDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
REV. GEORGE WEIR, M.A.

1. Translate:—

C. PLINIUS SEPTICIO CLARO SUO S.

(A) Heus tu promittis ad cenam nec venis! Dicitur ius: ad assem inpendium reddes, nec id modicum. Paratae erant lactucae singulae, cochleae ternae, ova bina, alica cum mulso et nive (nam hanc quoque computabis,

immo hanc in primis, quae periit in ferculo), olivae, betacei, cucurbitae, bulbi, alia mille non minus lauta. Audisses comoedos vel lectorem vel lyristen vel, quae mea liberalitas, omnes. At tu apud nescio quem ostrea vulvas, echinos, Gaditanas maluisti. Dabis poenas, non dico quas. Dure fecisti: invidisti, nescio an tibi, certe mihi, sed tamen et tibi. Quantum nos lusissemus, risissemus, studuissemus! potes apparatius cenare apud multos, nusquam hilarius simplicius incautius. In summa experire, et nisi postea te aliis potius excusaveris, mihi semper excusa. Vale.

(B) Erat Miseni classemque imperio praesens regebat. Nonum Kal. Septembres hora fere septima mater mea indicat ei apparere nubem inusitata et magnitudine et specie. Usus ille sole, mox frigida, gustaverat iacens studebatque: poscit soleas, ascendit locum ex quo maxime miraculum illud conspici poterat. Nubes, incertum procul intuentibus ex quo monte (Vesuvium fuisse postea cognitum est), oriebatur, cuius similitudinem et formam non alia magis arbor quam pinus expresserit. Nam longissimo velut trunco elata in altum quibusdam ramis diffundebatur, credo, quia recenti spiritu evecta, dein senescente eo destituta aut etiam pondere suo victa in latitudinem vanescebat: candida interdum, interdum sordida et maculosa, prout terram cineremve sustulerat. Magnum propiusque noscendum, ut eruditissimo viro, visum. Iubet liburnicam aptari: mihi, si venire una vellem, facit copiam: respondi studere me malle, et forte ipse quod scriberem dederat. Egrediebatur domo: accipit codicillos Rectinae Tasci inminenti periculo exterritae (nam villa eius subiacebat, nec ulla nisi navibus fuga): ut se tanto discrimini eriperet orabat. Vertit ille consilium et quod studioso animo inchoaverat obit maximo. Deducit quadriremes, ascendit ipse non Rectinae modo sed multis (erat enim frequens amoenitas orae) laturus auxilium.

(C) Actum quem debuisti, mi Secunde, in excutiendis causis eorum qui Christiani ad te delati fuerant secutus es. Neque enim in universum aliquid quod quasi certam formam habeat constitui potest. Conquirendi non sunt: si deferantur et arguantur, puniendi sunt, ita tamen ut qui negaverit se Christianum esse idque re ipsa manifestum fecerit, id est supplicando dis nostris, quamvis suspectus in praeteritum, veniam ex paenitentia impetret. Sine auctore vero propositi libelli in nullo crimine locum habere debent. Nam et pessimi exempli nec nostri saeculi est.

2. (*a*) Expand and explain the phrase *Non. Kal. Septembres*, and show the construction. (*b*) *Hora Septima:*—What o'clock, according to our method, and at the date given? (*c*) *Vulcanalibus:*—Explain, and give the date. (*d*) Mention the divisions of the Roman month, and illustrate the mode of dating.

3. Explain the construction of the following extt.:—(*a*) Corpori vacocujus fulturis animus sustinetur. (*b*) Invideo aliis bono quo ipse careo. (*c*) Habebat hoc moris. (*d*) Omnis secreti capacissima. (*e*) Adfuit deus voto, cujus ille compos. (*f*) Et ille, magno tibi constat? (*g*) Ille istud tamquam morituram coëgit. (*h*) Nubem inusitata magnitudine.

4. Give the meaning of the following words or phrases:—(1) ληκύθους. (2) Dilationem petam. (3) Stropham inveniam. (4) Judicium centumvirale. (5) Basilica. (6) Sportulae. (7) Nomenclatores. (8) Quadringentis milibus nummum. (9) Usus est sole. (10) Opisthographos.

5. Give both the etymology and the meaning of the following, and adduce cognate forms of any in Greek or English:—Pignora, ferculo, lepŏris, lepŏris, amputata, flamen, exilis, Vesuvium, lymphati, pugillares, manceps, tympana.

6. Parse the following:—Venabere, arcessita, novissime, nemini, contigit, lusissemus, advoluta, adessemus, exequenda, siliginem, inplesse, cesserit.

7. Distinguish between:—Perdo and amitto; occĭdi and occīdi; pendo and pendeo; venio and veneo; vincere and vincire; serui and sevi; domi and domo; ruri and rure; illuc, illic, and illinc; and (giving Greek equivalents) gratias habere, gratias agere, and gratiam referre.

8. Give the rules for the sequence of the tenses in dependent sentences.

9. A short account of Pliny. What emperors were reigning at the dates of his birth and death, severally? "Nam et pessimi exempli nec nostri saeculi est":—Comment on this reference.

THIRD YEAR.

LATIN.—PLAUTUS.—AULULARIA.

TUESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate into English:—

(A) EU. Exi, inquam! age, exi! exeundum hercle tibi hinc est foras,
circumspectatrix cum oculis emissitiis!
STA. Nam cur me miseram verberas? EU. Ut misera sis,
atque ut te dignam mala malam aetatem exigas.
STA. Nam qua me nunc causa extrusisti ex aedibus?
EU. Tibi ego rationem reddam, stimulorum seges?
Illuc regredere ab ostio! illuc, sis. Vide, ut
incedit! At scin', quomodo tibi res se habet?
Si hodie hercle fustem cepero aut stimulum in manum,
testudineum istum tibi ego grandibo gradum.
STA. Utinam me divi *adaxint* ad suspendium
potius quidem, quam hoc pacto apud te serviam!

EU. At ut scelesta sola secum murmurat!
Oculos hercle ego istos, improba, effodiam *tibi*,
ne me observare possis, quid rerum geram.
Abscede! etiam nunc! etiam nunc! etiam! ohe,
istic adstato! Si hercle tu ex istoc loco
digitum transvorsum aut *unguem latum* excesseris,
aut si respexis, donicum ego te iussero:
continuo hercle ego te dedam discipulam cruci.

(B) ME. Ita di faxint! EUN. Volo te uxorem
domum ducere. ME. Hei, occidis! EUN. Quid ita?
ME. Quia mi misero cerebrum excutiunt
tua dicta, soror; lapides loqueris.
EUN. Heia, hoc face, quod te iussit soror.
ME. Si lubeat, faciam. EUN. In rem tuam hoc est.
ME. Ut quidem emoriar, priusquam ducam.
Sed his legibus si quam dare vis, ducam,
quae cras *veniat*, perendie foras *feratur*.
His legibus quam dare vis, cedo, nuptias adorna.
EUN. Quam maxima possum tibi, frater, dare dote:
sed es grandior natu, media est mulieris aetas.
Eam si iubes, frater, tibi me poscere, poscam.
ME. Numnam vis me interrogare te? EUN. Imo si quid vis, roga.

(C) EU. Iam *scrutari mitto*. Redde huc! STR. Quid reddam? EU.
Ah, nugas agis.
Certe habes. STR. Habeo ego? quid habeo? EU. Non dico: audire
expetis.
Id meum quidquid habes, redde! STR. Insanis: perscrutatus es
tuo arbitratu, neque tui me quidquam invenisti penes.
EU. Mane, mane: quis ille est, qui hic intus alter erat tecum simul?
Perii hercle: ille nunc intus turbat; hunc si amitto, hic abierit.
Postremo hunc iam perscrutavi; hic nihil habet. Abi, quo lubet.
Iupiter te dique perdant! STR. Haud agit male gratias.
EU. Ibo hinc intro atque *illi socienno* tuo iam interstringam gulam.
Fugin' hinc ab oculis? abin' an non? STR. Abeo. EU. *Cave*, sis,
revideam!—

2. Construe carefully the words printed in Italics in the above extracts.

3. (*a*) Name the metres used in the above extt., and scan the first three vss. of ext. (B). (*b*) Point out any usages which illustrate the unsettled character of the language in the time of Plautus. (*c*) Give an outline of the plot of this drama, naming the characters.

4. Write down in the ordinary forms the equivalents of the following verbs, naming the mood and tense of each :—adaxint, duit, locassim, perplexarier, edim, prohibessi, impetrassere, rescisse, benedice, dixis.

5. Explain such forms as the following ;—ted, med, fide, injurium, avom, sis, temperi, quoi, reii, tuai, mi.

6. Give the derivation and exact meaning of:—Mecastor, edepol pauxillum, germanam, imo, zamiam, palam, clam, tigillo, temeti oppido, Lucina.

7. Distinguish between the meaning of:—compellare and compellere; colligare and colligere; consternare and consternere; fundare and fundere; mandare and mandere; cŏlo and cōlo; lĕgo and lēgo; dĭco and dīco; rĕfert and rēfert; compărēs and compārēs.

8. Translate into Latin :—

But Ascanius the son of Æneas, who was also called Iulus, left the town of Lavinium after thirty years, and built a new city, high on the hill near a deep lake; and he called the town Alba Longa, and there he and his descendants reigned three hundred years over the whole country of the Latins from the mountains to the sea, and all the Latin towns were subject to Alba. There were thirty of them, and Alba was the chief town of the league, and upon the summit of the Alban hill they built a temple to Jupiter Latiaris, for thus King Latinus was called after his death when he had become a god. In this temple the thirty Latin towns offered an annual sacrifice and celebrated games in honour of the god. But the sacred relics of Troy, which Æneas had rescued, remained still in Lavinium, the first place in Latium where they were worshipped; and whenever they were carried away from it to Alba Longa, they returned of their own accord to Lavinium in the night.

B. A. ORDINARY EXAMINATION, 1879.

WEDNESDAY, APRIL 16TH:—MORNING, 9 TO 12.

LATIN.—{ TACITUS.—ANNALS, BOOK II.
PLAUTUS.—AULULARIA.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

(A) Reductus inde in hiberna miles, lætus animi quod adversa maris expeditione prospera pensavisset. Addidit munificentiam Cæsar, quantum quis damni professus erat, exsolvendo. Nec dubium habebatur labare hostes petendæque pacis consilia sumere et, si proxima æstas adjiceretur, posse bellum patrari. Sed crebris epistolis Tiberius monebat, rediret ad decretum triumphum: satis jam eventuum, satis casuum: prospera illi et magna prœlia: eorum buoque meminisset quæ venti et fluctus, nulla ducis culpa, gravia tamen et sæva damna intulissent: se novies a divo Augusto in Germaniam missum plura consilio quam vi perfecisse: sic Sugambros in deditionem acceptos, sic Suevos regemque Maroboduum pace obstrictum: posse et Cheruscos ceterasque rebellium gentes, quoniam Romanæ ultioni consultum esset, internis discordiis relinqui. Precante Germanico annum efficiendis cœptis, acrius modestiam ejus aggreditur alterum consulatum offerendo, cujus munia præsens obiret. Simul annectebat, si foret adhuc bellandum, relinqueret materiem Drusi fratris gloriæ, qui, nullo tum alio hoste, nonnisi apud Germanias assequi nomen imperatorium et deportare lauream posset. Haud cunctatus est ultra Germanicus, quanquam fingi ea, seque per invidiam parto jam decori abstrahi, intelligeret.

(B) Funus sine imaginibus et pompa, per laudes ac memoriam virtutum eius celebre fuit. et erant qui formam, aetatem, genus mortis, ob propinquitatem etiam locorum, in quibus interiit, magni Alexandri fatis adaequarent. nam utrumque corpore decoro, genere insigni, haud multum triginta annos egressum, suorum insidiis externas inter gentes occidisse: sed hunc mitem erga amicos, modicum voluptatum, uno matrimonio, certis liberis egisse, neque minus proeliatorem, etiamsi temeritas afuerit praepeditusque sit perculsas tot victoriis Germanias servitio premere. quodsi solus arbiter rerum, si iure et nomine regio fuisset, tanto promptius adsecuturum gloriam militiae, quantum clementia, temperantia, ceteris bonis artibus praestitisset. corpus antequam cremaretur nudatum in foro Antiochensium, qui locus sepulturae destinabatur, praetuleritne veneficii signa, parum constitit. nam ut quis misericordia in

Germanicum et praesumpta suspicione aut favore in Pisonem pronior, diversi interpretabantur.

2. Write explanatory notes on the following:—(*a*) Funus sine *imaginibus* et *pompa*. (*b*) *Saliari* carmine. (*c*) *Flamen* aut augur. (*d*) Suscepto *justitio*. (*e*) Ad decretum *triumphum*. (*f*) *Ovantes* urbem introirent. (*g*) *Areo judicio*. (*h*) *Mancipari* singulos *actori publico* jubet. (*i*) Vestis *serica*. (*k*) E numero *primipilarum*.

3. Indicate that part of ext. (A) which is given in the *Oratio obliqua* and turn the same into the *Oratio recta*.

4. (*a*) Comment on the following usages:—(*a*) Aegyptum proficiscitur *cognoscendae antiquitatis*. (*b*) Qua Germaniam *praevehitur*. (*c*) Laetus *animi*. (*d*) *Nilo* subvehebatur. (*e*) *Aegypto* remeans. (*b*) Give the modern names of the following:—Arminius, Dahae, Mosa, Lupia, Chatti, Visurgis, Gotones, Forum Julium. (*c*) In what years did the events recorded in this book occur?

5. Translate:—

(C) STR. Haec mihi *ted*, ut tibi *med*, aequom est credere.
CO. Imo equidem credo. STR. At *scin'* etiam, quomodo?
aquam hercle plorat, quom lavat, profundere.
CO. Censen' talentum magnum exorari potesse
ab istoc sene ut det, *qui* fiamus liberi?
STR. Famem hercle utendam, si roges, nunquam dabit.
Quin ipsi pridem tonsor unguis demserat:
collegit omnia, abstulit, praesegmina.
AN. Edepol mortalem parce parcum praedicas.
CO. Censen' vero, adeo esse parcum et misere vivere?
STR. Pulmentum pridem ei eripuit miluos.
Homo ad praetorem plorabundus devenit;
infit ibi postulare, plorans, eiulans,
ut sibi liceret miluom vadarier.
Sexcenta sunt, quae memorem, si sit otium.
Sed uter vostrorum est celerior, memora mihi.
CO. Ego, ut multo melior. STR. Cocum ego, non furem, rogo.
CO. Cocum ego dico. STR. Quid tu ais? AN. Sic sum, ut vides.
CO. Cocus ille *nundinalist*: in nonum diem
solet ire coctum. AN. Tun', trium litterarum homo,
me vituperas? fur! etiam fur! trifurcifer!....

(D) Perii! interii! occidi! Quo curram? quo non curram? Tene, tene!—Quem quis?—

Nescio: nil video: coecus eo, atque equidem, quo eam, aut ubi sim, aut qui sim,
nequeo cum animo certum investigare. Obsecro vos ego, mihi auxilio,

oro, obtestor, sitis et hominem demonstretis, qui eam abstulerit.
Quid est? quid ridetis? Novi omnis: scio, fures esse hīc compluris,
qui vestitu et creta occultant sese atque sedent, quasi sint frugi.
Quid ais tu? Tibi credere certum est; nam esse bonum, e voltu cognosco.
Hem, nemo habet horum?—Occidisti! Dic igitur, quis eam habet? Nescis?
Heu me miserum! misere perii! male perditu', pessume ornatus eo:
tantum gemiti et malae moestitiae hic dies mihi obtulit,
famem et pauperiem. Perditus penissume sum ego omnium
in terra. Nam quid mihi opus est vita, qui tantum auri perdidi,
quod custodivi sedulo? Egomet me defraudavi
animumque meum geniumque meum. Nunc meo alii laetificantur
damno et malo! Pati nequeo.

6. (*a*) Write explanatory notes on the words and phrases in italics in the above extt. (*b*) Name the metre of ext. (B), giving the scale, and scan the first four verses.

7. Parse the following verbs, and give their equivalents in the ordinary forms of the language:—Scibas, sis, respexis, potesse, vadarier, mutassis, duit, edim, impetrassere, rescisse, benedice.

8. Explain the grammatical construction of the following extt., and point out any peculiarities that occur:—(*a*) Nimis hercle ego illum corvom ad me reniat velim qui indicium fecit. (*b*) *Eius* honoris gratia feci (*c*) Implevisti fusti *fissorum* caput. (*d*) Tum *me* faciat, quod volt, magnus Jupiter. (*e*) Juxta rem *mecum* tenes super Euclionis filia. (*f*) Quid tibi *meam* tactio.

INTERMEDIATE EXAMINATION.

THURSDAY, APRIL 3RD:—MORNING, 9 TO 12.

LATIN PROSE COMPOSITION.

Examiners,..... { REV. GEORGE CORNISH, LL.D. / REV. GEORGE WEIR, M.A.

Translate into Latin :—.

(A) Romulus was a just King, and gentle to his people. In his wars he was very successful, and enriched his people with the spoils of their enemies. At last, after he had reigned for nearly forty years, it chanced that one day he called his people together in the field of Mars: when, all on a sudden, there arose a dreadful storm, and all was dark as night, and the rain, and thunder and lightning, were so terrible, that all the people fled from the field, and ran to their several homes. At last the storm was over, and they came back to the field of Mars, but Romulus was nowhere to be found.

(B) Theodosius, the Roman Emperor, who has been surnamed the Great, was succeeded by his two sons, Arcadius and Honorius, who divided the empire, now too great to be governed by one person, into the Eastern and Western, and fixed their residence, the former at Constantinople, the latter at Rome. Zosimus, who wrote the history of the Roman Emperors in elegant Greek. and without whom, though his fidelity in a few things has with good reason been doubted, some parts of their history would have been obscure and others altogether unknown, says, and there is no reason why we should not here believe him, as we see no inducement he could have had to swerve from the truth, that these two young men, though they wore the purple, were only nominal Emperors, and were obliged for a long time to yield every thing to Rufinus and Stilicho, the Generals of the dreaded legions.

B.A. ORDINARY EXAMINATION, 1879.

THURSDAY, APRIL 10TH:—AFTERNOON, 2 TO 4.

LATIN PROSE COMPOSITION.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

Translate into Latin:—

Then a young man of noble blood, Caius Mucius by name, went to the Senate and offered to go to the camp of the Etruscans and to slay King Porsenna. So he crossed the river and made his way into the camp, and there he saw a man sitting on a high place, and wearing a scarlet robe, and many coming and going about him; and saying to himself, "This must be King Porsenna," he went up to his seat amidst the crowd, and

when he came near to the man he drew a dagger from under his garment, and stabbed him. But it was the king's scribe whom he had slain, who was the king's chief officer; so he was seized and brought before the king, and the guards threatened him with sharp torments, unless he would answer all their questions. But he said, "See now how little I care for your torments," and he thrust his right hand into the fire that was burning there on the altar, and he did not move till it was quite consumed. Then King Porsenna marvelled at his courage and said:" Go thy way, for thou hast harmed thyself more than me; and thou art a brave man, and I send thee back to Rome unhurt and free." But Caius answered, "For this thou shalt get more of my secret than thy torture could have forced from me. Three hundred noble youths of Rome have bound themselves by oath to take thy life. Mine was the first adventure; but the others will each in his turn lie in wait for thee. I warn thee, therefore, to look to thyself well." Then Caius was let go and went back again into the city.

FIRST YEAR.

HISTORY.—HISTORY OF GREECE AND ROME.

THURSDAY, APRIL 3RD:—MORNING, 9 TO 12.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. (*a*) Name and describe the two gulfs north of Central Greece. (*b*) Name the countries on the west of Central Greece. (*c*) Define the position of Eubœa. (*d*) Give the derivation and meaning of the name *Peloponessus, Cyclades, Sporades.*

2. What was the age, and what the chief scenes, of Greek colonization?

3. What were the ties that tended to unite the various tribes of Hellas?

4. (*a*) An account of the political and social institutions of the Spartans. (*b*) Explain the terms *Perioeci*, *Helots*, and *Neodamodes.*

5. A short account of the legislation of Cleisthenes, at Athens.

6. Write short historical notes, with dates, on the following:—(1) Ladé, (2) Marathon, (3) Salamis, (4) Platæa.

7. When did Xenophon live? Name important events that took place during his lifetime.

8. State the leading features of the domestic, social, and religious life of the Romans, at the time of the establishment of the Republic.

9. What events led to the creation of the first Decemvirate? What were its objects, functions, and results?

10. Comment on the general results, to Rome and Carthage severally, of the First Punic War.

11. A short account of the life and times of Cicero.

B. A. ORDINARY EXAMINATION.

WEDNESDAY, APRIL 16TH:—AFTERNOON, 2 TO 4.

GENERAL PAPER.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Describe geographically, illustrating by a map if you can, the Chalcidic Peninsula, and point out its maritime and political importance and value. What cities were confederate with Olynthus?

2. Give an account of the events and pretexts which led to Philip's interference with the Olynthiac Confederation.

3. (*a*) Within what period in the History of Greece did the Macedonian Supremacy fall? (*b*) From what race did the Royal family of Macedon claim descent?

4. Write a sketch of the public life and policy of Philip. How and when was he first brought into collision with Athens? Where and at what date was fought the decisive battle which humbled Greece under Philip?

5. In what year of the life of Demosthenes, and before Christ, were the Olynthiacs spoken? (*b*) What was the probable order of their delivery?

---

6. Write a sketch of the life of Plautus, and characterise him as a dramatic poet.

7. (*a*) What class of Greek literature, and what authors therein, did the Roman Dramatists take as their models? (*b*) Explain the meaning of *Fabulæ prætextatæ*, *palliatæ*, *mimi* and *exodia*.

8. Mention the Roman *Historians* whose works have come down to us.

9. Name, with dates, the Roman Emperors who reigned previous to the birth and also to the death of Tacitus.

10. (*a*) Enumerate the writings of Tacitus that have come down to us. (*b*) Compare or contrast Tacitus as a historian with Thucydides and Livy in respect of the excellences or defects displayed by him in his style and the treatment of his subject.

THIRD YEAR EXAMINATION FOR HONOURS IN CLASSICS,

GREEK.

THURSDAY, APRIL 24TH :—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D

1. Translate the following extracts, adding an explanatory note where you deem it necessary.

(A) Aristotle, De Poetica, chap. 16, from beginning down to ὅθεν ἀνεγνωρίσθησαν.

2. (*a*) Give an account of the state of the text of this Treatise, and name the principal editors and commentators of the same. (*b*) Summarise the arguments in favour of the genuineness of this treatise, stating incidentally the theories that have been propounded concerning it. (*c*) State the subject of ext. (A), and point out how it is connected with the preceding parts of the book. (*d*) Explain briefly the literary references of chap. 16.

3. Translate :—

(B) Aristophanes, The Frogs, vss. 686–702; and vss. 1482–1499.

4. (*a*) Explain briefly the political references of ext. (B). Explain also the following from the Frogs :—(1) κωδωνίσω. (2) κόβαλα. (3) ἐς Κεραμεικόν. (4) δύ' ὀβολὼ μισθὸν λαβών. (5) Ὄνου Πόκας. (6) ἐψυσε φράτερας. (7) οὐ Χῖος ἀλλα Κεῖος. (*b*) Analyse the metres of vss. 686 and 1482. (*b*) What are the points which Aristophanes ridicules in Euripides? What were the grounds of his antipathy?

5. Translate :—

(C) Pindar, Olympia VI., vss. 1–50.

6. (*a*) Give an account of the person for whom, and of the occasion on which, Ode VI. was written. (*b*) Characterize the poetry of Pindar, in respect of (1) its style and diction; (2) religious tone and treatment of myths; (3) use of metaphors and gnomic commonplaces; (4) dialects; illustrating your remarks by citations. (*c*) Construe vss. 1–4 of ext. (C).

7. Translate :—

(D) Hesiod, Works and Days, vss. 661–680.

8. (*a*) Comment on the exact meaning of the phrase Ἔργα καὶ Ἡμέραι. (*b*) To what school of Poetry did Hesiod belong, and when

and where did he flourish? Name the leading ancient and modern commentators on Hesiod. (*c*) In ext. (D), vss. 661 and 673, we have *τροπὰς* and *δεινὰς* with the ultimate short:—How may this be accounted for?

LATIN.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate, adding an explanatory note where you deem it necessary, the following passages:—

(A) Juvenal, Sat. VIII., vss. 245-258; and X., vss. 114-126.

2. (*a*) Explain briefly the historical references in the above extt. from Juvenal, and give the name and date of the battle referred to in VIII., 349-52. (*b*) Discuss the construction and interpretation of the following:—(1) *Ingenio* manus est et cervix caesa. (2) *Longo Sanguine* censeri. (3) Effigies *quo* tot bellatorum? (4) Tamquam feceris ipse * * * *ut* te conciperet (VIII., vss. 40-42). (5) Viribus ille Confisus periit admirandusque lacertis (X., vss. 10-11). (*c*) Describe the subject of Satt. VIII. and X., and refer to any passages that betray partiality, or mere declamatory exaggeration, on the part of Juvenal.

3. Translate:—

(B) Plautus:—Aulularia, Act IV., sc. 6.

4. (*a*) Discrucior *animi*; *animo* male est; *cum animo* investigare:—Explain these usages severally. (*b*) In vss. 1 and 10 of ext. (B), Wagner edits *Fide* instead of *Fidei*:—Can you cite any instances from Horace or Virgil of similar terminations in nouns of the 5th Decl.? (*c*) Vestitu et creta; sublevit os; foris crepuit; adii manum; sycophantias; laterna Punica; putatur ratio; Gallicis cantheriis; trifurcifer. (*d*) Explain the following forms as edited by Wagner:—adaxit, scin, respexis, duit, quoi, med, tuaï, faxo, pote, fuat, temperi, injuriumst. (*e*) Write down the scale of the metre, and scan vss. 1-4 of ext. (B).

5. Translate:—

(C) Livy, Book XXI., chap. lxii.

6. (*a*) *Lapidibus* pluvisset:—What case? What other case is sometimes used with this verb? (*b*) *Aliis procurandis* operata est:—What case? (*c*) Explain the following terms as here used:—sortes, libros adire, novemdiale sacrum, lustrata, lectisternium, supplicatio. (*d*) Describe the route

of Hannibal from Spain into Italy. (*e*) From what tribes did he recruit his forces? How is the comparative fewness of Carthaginian soldiers in his army to be accounted for?

7. Translate :—

(D) Tacitus, Annals, Book I., chap. lxi.

8. Give the meaning and derivation of the following military terms :—'In itinere' in agmine, in stationibus,' (Hist. I. 23); 'Signa . . . Vexillis,' (ib. 36); 'Sacramento adactae' (ib. 55); centuriae, cohors, manipuli, evocati, vexilarii, prætoriani, tribunus, optio, speculator.

9. Translate :—

(E) Cicero, De Imp. Cn. Pompeii, chap. viii.

10. (*a*) Narrate briefly the events antecedent to the delivery of the oration De Imp. Cn. Pomp. (*b*) Point out instances in which Cicero, in order to enforce his argument, has indulged in oratorical exaggeration in this speech. In what respects may it be regarded as a good specimen of Cicero's oratory? (*c*) Point out various readings in ext. (E), and show how these arise in mss. (*d*) Explain the meaning of :—(1) Centuriis cunctis. (2) Vectigalia. (3) Socii. (4) Decumae. (5) Scriptura. (6) Saltibus (cap. vi.) :—What other readings and conjectures?

GREEK AND LATIN PROSE COMPOSITION.

THURSDAY, APRIL 24TH :—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

(A) Translate into Greek :—

This unrighteous dominion you have it now in your power to subvert, and to establish the freedom of your country on a firm basis. The tyrants must be cut off. I have taken the most effectual measures for this purpose. My associates are numerous. I can depend on allies and protectors, if necessary. Happily the tyrants are as secure as I have been provident. Their insolent contempt of their countrymen has banished the suspicion and timidity which usually render the guilty quick-sighted to discover as well as sagacious to guard against the vengeance which they deserve.

(B) Translate into Latin :—

"The society of Legendary Greece includes, besides the chiefs, the general mass of freemen, among whom stand out by special names certain professional men, such as the carpenter, the smith, the leather-dresser, the

leech, the prophet, the bard, and the fisherman. We have no means of appreciating their condition. Though lots of arable land were assigned in special property to individuals, with boundaries both carefully marked and jealously watched, yet the larger proportion of surface was devoted to pasture. Cattle formed both the chief item in the substance of a wealthy man, the chief means of making payments, and the common ground of quarrels,—bread and meat, in large quantities, being the constant food of every one. The estates of the owners were tilled, and their cattle tended, mostly by bought slaves, but to a certain degree also by poor freemen called Thetes, working for hire and for stated periods. The principal slaves, who were entrusted with the care of large herds of oxen, swine, or goats, were of necessity men worthy of confidence, their duties placing them away from their master's immediate eye. They had other slaves subordinate to them, and appear to have been well treated; the deep and unshaken attachment of Eumaeus the swineherd and Philœtius the neatherd to the family and affairs of the absent Odysseus is among the most interesting points in the ancient epic."

GREEK AND ROMAN HISTORY.

FRIDAY, APRIL 25TH:—AFTERNOON, 2 TO 5.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. (*a*) Give the Latin equivalents in use among the Romans of the following names of Greek deities:—Zeas, Here, Poseidon, Athene, Eos, Hestia, Leto, Demeter, Hades, Ares. (*b*) The legend of Deukalion, Hellen, and the sons of Hellen. (*c*) Give the substance of Grote's remarks on Grecian Mythology. (*d*) What was the original meaning of the word *mythus?*

2. Give an account of the state of society and manners as exhibited in the legendary poems of Greece.

3. Give an account of the establishment of the various Hellenic communities of Asia Minor. To what extent may the superiority of certain of these communities in literature, and civilization generally, over the tribes of the mother-country, be attributed to their intercourse with foreign nations?

4. Enumerate the Western Colonies of Greece. What were the peculiar features of Grecian colonization, and the causes of the general prosperity of the Colonies?

5. Give a succinct account of Xerxes' expedition against Greece; and describe the conduct of the several Hellenic nations at the time.

6. Contrast the policy and conduct of Athens and Sparta in the matter of the Persian invasion, and point out their bearing on events subsequent to the repulse of the Persians.

7. Give a description of the situation, scenery and territory of the City of Rome under the Kings.

8. Write an account of Sp. Cassius; and give the substance of what Arnold, following Niebuhr, says of the true character and objects of the Agrarian Laws.

9. Trace briefly the wars and policy by which Rome acquired the sovereignty of the whole of Italy.

10. With what nations outside of Italy did Rome come into contact peacefully or otherwise, previous to the Punic Wars?

11. The constitution and power of the Carthaginians at the outbreak of the First Punic War.

B. A. EXAMINATION FOR HONOURS IN CLASSICS.

GREEK POETS.

MONDAY, MARCH 31ST:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate, with an explanatory note when you deem it necessary:—

(A) Pindar, Olympia VI., vss. 1–50.

2. (*a*) Give an account of the person for whom, and of the occasion on which, Ode VI. was written. (*b*) Characterize the poetry of Pindar, in respect of (1) its style and diction; (2) religious tone and treatment of myths; (3) use of metaphors and gnomic commonplaces; (4) dialects; illustrating your remarks by citations. (*c*) Construe vss. 1–4 of ext. (A).

3. Translate:—

(B) Aeschylus, Prometheus Vinctus, vss. 526–560.

4. (*a*) Scan the vss. of strophe *a*. (*b*) Divide this drama into its several parts, assigning to them their appropriate designations. (*c*) Comment on the meaning of the following expressions:—ποικιλείμων

νύξ. ἀπαντλῆσαι πόνων. κυμάτων ἀνήριθμον γέλασμα. ὀδμὰ ἀφεγγής. τὰ μέν σ' ἐπαινῶ. ἐνοδίους συμβόλους. ἰότατι. γῆν πρὸ γῆς. παρέσυρας ἔπος. βρυχία ἠχώ.

5. Translate :—

(C) Sophocles, Antigone, vss. 730–757.

6. (*a*) Define carefully the force of the following particles, or combinations of particles :—*καὶ μήν. ἦ μήν. γάρ. ἀλλὰ γάρ. γε. γοῦν. ἀλλ' οὖν* : —illustrate the use of any that occur in ext. (C). (*b*) Explain the grammatical construction of the following extt :—(1) *μῦθος φίλων*, vs. 11. (2) *δυοῖν ἀδελφοῖν * * * θανόντων*, 13-14. (3) *οὐ γὰρ τάφου * * * ἀτιμάσας ἔχει*, 21-22. (4) *τὰ τῶν θεῶν ἔντιμα*, 77. (5) *ἐᾶν ἀθαπτον * * * αἰκισθέντ' ἰδεῖν*, 205-6. (*c*) Point out the force of the prepositions in the following :—(1) *τἀν ποσὶν κακά*. (2) *νέῳ ξὺν μόρῳ*. (3) *ἐξ ἀθύμου δεσπότου*. (4) *παίδων τῶν ἀπ' Οἰδίπου*. (5) *πῶς χάριν βορᾶς*. (6) *παρ' οὐδὲν ἄλγος*. (*d*) Define the term *σύστημα*, and scan *σύστ. α.* vss. 110-116 ; and the term *κομμός*, and scan vss. 1265-69.

7. Translate :—

(D) Euripides, Hippolytus, vss. 790–810.

8. Write an outline of the plot of the Hippolytus. What were the excellences and defects of Euripides as a Dramatist as compared with Sophocles ?

9. Translate :—

(E) Aristophanes, The Frogs, vss. 686–702 ; and vss. 1482–1499.

10. (*a*) Explain briefly the political references of ext. (E). Explain also the following from the Frogs :—(1) *κωδωνίσω*, 78. (2) *κόβαλα*, 104. (3) *ἐς Κεραμεικόν*. (4) *δύ' ὀβολὼ μισθὸν λαβών*. (5.) *Ὄνου Πόκας*. (6) *ἔφυσε φράτερας*, 418. (7) *οὐ Χῖος, ἀλλὰ Κεῖος*. (*b*) Analyse the metres of vss. 686 and 1482. (*c*) What are the points which Aristophanes ridicules in Euripides ? What were the grounds of his antipathy ?

11. Translate :—

(F) Theocritus, Idyl VI., vss. 21–41.

(G) Hesiod, Works and Days, vss. 661–680.

(H) Homer, Odyssey, Bk. II., vss. 85–102.

12. (*a*) Parse the following forms from Theocritus, and give Attic equivalents :—*τήνα, ποτί, ἀποισῇ, αἶκα, ᾠδήκαντι, κηρῷ, θᾶσαι, τίν, ἦς, ψέ, δήλετο, ποθορῇ μ.* (*b*) To what school of Poetry did Theocritus belong, and when and where was it most flourishing ? (*c*) In ext. (G), vss. 661 and 673, we have *τροπὰς* and *δεινὰς* with the ultimate short :—How may this be accounted for ?

GREEK PROSE WRITERS.

MONDAY, APRIL 21ST :—MORNING, 9 TO 12.

Examiner,..... .....REV. GEORGE CORNISH, LL.D.

1. Translate :—

(A) Herodotus, Book VIII., chaps. 59 and 60.

2. Expain the folllowing phrases :—(*a*) ὡς ποδῶν ἕκαστος εἶχον. (*b*) φράξαντες γὰρ τὰ γέρρα (§ 61). (*c*) ἀνοπλοι δὲ ἐόντες (*ib.*). (*d*) καί σφι ἦν Ὑακίνθια (§ 6). (*e*) ὁ ἥλιος ἀμαυρώθη ἐν τῷ οὐρανῷ (§ 10). (*f*) κρησφύγετον τοῦτο ἐποιέετο (§ 15). (*g*) ἐκ μέσον τοῦ ἡμῖν ἐζεσθε (viii., § 22) (*h*) πρόξενος καὶ εὐεργετης (*ib.* 136).

3. Translate :—

(B) Thucydides, Book I., chap. 73.

4. What were the causes and events, as set forth by Thucydides in this book, which brought about the Peloponnesian War? What was the early condition of the Greek race as described by him? What were the dates of the events referred to in chaps. 103–106?

5. Translate :—

(C) Xenophon, Hellenics, Book II., chap. 4, §§ 14–17 :—καὶ γὰρ ἐν εὐδίᾳ κ. τ. λ.

6. Write explanatory notes on the following from Book II. :—(*a*) ἀπὸ τῆς ὥρας ἐτρέφοντο (i. § 1). (*b*) ὅτι οὐ διέωσαν διὰ τῆς κόρης τὰς χεῖρας (*ib.* 8). (*c*) παρετάξαντο ἐν μετώπῳ (*ib.* 23). (*d*) τῶν μακρῶν τειχῶν * * * ἑκατέρου (ii. § 15). (What does Thucydides say about the Long Walls?) (*e*) ἀπὸ συκοφαντίας ζῶντας (iii. § 12). (*f*) κόθορνος ἐπικαλεῖται (*ib.* 31). (Illustrate from Aristophanes). (*g*) ἀπο βλέπει ἐπ' ἀμφοτερων—ἀμφότερον (*ib.*). (Discuss the meanings and the readings.) (*h*) ἐπὶ τὸν κωφον λιμένα (iv. § 31).

7. Translate :—

(D) Demosthenes, De Corona, § 268 :—
Ἀκούεις, Αἰσχίνη, * * * συμβαίνει λέγειν (p. 257, Ed. Tauch.).

8. (*a*) In ext. (D) explain (1) ἐλλεβορίζεις. (2) ἢ λόγῳ * * * γιγνωσκομένους (Explain the acousative). (3) ὥσπερ ἐξ ἀμάξης. (4) ῥητὰ καὶ ἄρρητα. (5) τῷ σῷ γένει. (*b*) What is the reference in § 152 of Æschines, Contra Ctesiph., and how does Demosthenes use the same

event? (*c*) What is the opinion of Grote and others touching the genuineness of the public documents cited in the *De Corona?*

9. Translate:—

(E) Aristotle, De Poetica, chap. 16, from beginning down to ὅθεν ἀνεγνωρίσθησαν.

9. (*a*) Give an account of the state of the text of this Treatise, and name the principal editors and commentators of the same. (*b*) Summarize the arguments in favour of the genuineness of this treatise, stating incidentally the theories that have been propounded concerning it. (*c*) State the subject of ext. (F), and point out how it is connected with the preceding parts of the book. (*d*) Explain briefly the literary references of chap. 16.

10. Translate:—

(G) Plato, De Republica, Book I., chap. 24, §§ A to C, inclusive.

LATIN POETS.

MONDAY, MARCH 31ST:—AFTERNOON, 2 TO 5.

Examiner.....REV. GEORGE CORNISH, LL.D.

1. Translate, adding an explanatory note where you may deem it necessary on any peculiar form or construction:—

(A) Persius, Sat. V., vss. 132-152.

2. (*a*) Translate and explain the following extracts, noting any varieties either of reading or interpretation:—(1) Vulnera Parthi ducentis ab inguine ferrum. (2) Saepe insulso cœnanda Glyconi. (3) Hortante Camena. (4) Succinctis Laribus. (5) Tota impune Suburra Permisit sparsisse oculos jam candidus umbo. (6) Fruge Cleanthea. (7) Libertate opus est * * * far Possidet (vss. 73-75). (8) Una Quiritem Vertigo facit. (*b*) Derive the following and give their meaning:—Catasta, rugam, popa, cœnoris, esseda, bruma, varicosos, varo, Dama, equidem.

3. Translate:—

(B) Juvenal, Sat. VIII., vss. 245-258; and X., vss. 114-126.

4. (*a*) Explain briefly the historical references in the above extt. from Juvenal and give the name and date of the battle referred to in VIII., 349-52 (*b*) Discuss the construction and interpretation of the following:—(1)

Ingenio manus est et cervix caesa. (2) *Longo Sanguine* censeri. (3) Effigies *quo* tot bellatorum? (4) Tanquam feceris ipse * * * *ut* te conciperet (VIII. vss. 40–42). (5) Viribus ille Confisus periit admirandusque lacertis (X. vss. 10–11). (*c*) Describe the subject of Satt. VIII., and X., and refer to any passages that betray partiality, or mere declamatory exaggeration on the part of Juvenal.

5. Translate :—

(C) Horace, Satires, Book I., Sat. ix., vss. 60–78.

6. (*a*) Write a short descriptive account of the above satire of Horace, pointing out the grounds on which it has always been held in high esteem, and its historical value. (*b*) Explain the following forms :—can you suggest any reason for their occurrence here?—Sodes, submosses, nosset surrexe. (*c*) Comment on the following, and illustrate from the Greek where you can :—(1) Totus in illis. (2) Quid agis? (3) Num quid vis? (4) O te cerebri felicem. (5) Quis te salvo est opus. (6) Quae tua virtus.

7. Point out what were the leading characteristics, mental, moral, and literary, of the three Roman Satirists, and what were their relative excellences. With what known writer did Satire as developed by Horace and Juvenal originate? Whence the term *Satira?*

8. Translate :—

(D) Plautus :—Auluaria, Act IV., sc. 6.

(E) Terence :—Adelphi, Act IV., sc. 7, vss. 1–23.

2. (*a*) Discrucior *animi; animo* male est; *cum animo* investigare :—Explain these usages severally. (*b*) In vss. 1 and 10 of ext. (D), Wagner edits *Fide* instead of *Fidei* :—Can you cite any instances from Horace or Virgil of similar terminations in nouns of the 5th Decl.? (*c*) Vestitu et creta ; sublevit os ; foris crepuit ; adii manum ; sycophantias ; laterna Punica ; putatur ratio ; Gallicis cantheriis ; trifurcifer. (*d*) Explain the following forms as edited by Wagner :—adaxit, scin, respexis, duit, quoi, med, tuaï, faxo, pote, fuat, temperi, injuriumst. (*e*) Write down the scale of the metre, and scan vss. 1–4 of ext. (D).

9. Translate :—

(F) Virgil, Æneid, II., vss. 57–75.

10. In ext. (F), for *qui* in vs. 59 *quis* is edited by some ; in 61, for *animi animo ;* in 62, for *certae, certe ;* in 64, for *certant, certat ;* in 65, for *crimine, crimen ;* and in 71, for *et super, insuper ;* distinguish between these variations, severally.

LATIN PROSE WRITERS.

TUESDAY, APRIL 22ND :—MORNING, 9 TO 12.

Examiner,..... .. ..REV. GEORGE CORNISH, LL.D.

1. Translate the following extracts into English, adding a brief comment where any peculiar form or construction seems to you to require it:—

(A) Cicero, De Imp. Cn. Pomp., chap. xx :—"Etenim talis vir" to end.

2. (*a*) Narrate the date, object, and result of the delivery of this oration. By what other name is it designated? (*b*) Explain the following :—(1) Ex portu, ex decumis, ex scriptura vectigal. (2) Jus legationis. (3) Socius populi Romani. (4) Duo reges imminent toti Asiæ. (5) Cum Antiocho, cum Philippo, cum Aetolis bella gesserunt.

3. Translate :—
(B) Cicero, De Officiis, Book II., chap. iv :—"Qui denique" to end.

4. "Ita propria est ea præceptio *Stoicorum*, *Academicorum*, *Peripateticorum* (I., chap. ii.) :—Translate, and briefly explain the reference to these several schools, as to their views on the question of happiness and virtue.

5. Translate :—
(C) Livy, Book XXI., chap. lxii.

6. (*a*) *Lapidibus* pluvisset :—What case? What other case is sometimes used with this verb? (*b*) *Aliis procurandis* operata est :—What case? (*b*) Explain the following terms as here used :—sortes, libros adire, novemdiale sacrum, lustrata, lectisternium, supplicatio. (*c*) Describe the route of Hannibal from Spain into Italy. (*d*) From what tribes did he recruit his forces? How is the comparative fewness of Carthaginian soldiers in his army to be accounted for?

8. Translate :—
(D) Tacitus, Histories, Book I., chaps. xlv, and lxxviii.

9. (*a*) Comment on the following uses of the subjunctive :—(*a*) Alium *crederes* senatum. (*b*) Postquam · · · *nequiverint* (chap. 7.) (*c*) Ne · · · *fueris* (16). (*d*) *Perdidissent* (18). (*e*) Quis · · · *processerim* (37). (*f*) Neque · · · *crediderim*. (*b*) Explain the geographical references of chap. 78. (*c*) chap. i. :—'Quatuor principes'; 'trina bella civilia'; 'haustae aut obrutae urbes'; 'plenum exsiliis mare' :—explain briefly these references.

10. Translate :—
(E) Tacitus, Annals, Book I., chap. lxi.

11. Give the meaning and derivation of the following military terms :—'In itinere, in agmine, in stationibus,' (Hist. I. 23); 'Signa . . . Vexillis,' (ib. 36); 'Sacramento adactae' (ib.) 55; centuriae, cohors, manipuli, evocati, vexilarii, prætoriani, tribunus, optio, speculator.

LATIN PROSE COMPOSITION.

TUESDAY, APRIL 22ND :—AFTERNOON, 2 TO 5.

Examiner,.....REV GEORGE CORNISH, LL.D.

Translate into Latin:—

"A period of comparative intermission, however, was now at hand for the Trojans. The gods brought about the memorable fit of anger of Achilles, under the influence of which he refused to put on his armour, and kept his Myrmidons in camp. According to the Cypria, this was the behest of Zeus, who had compassion on the Trojans; according to the Iliad, Apollo was the originating cause, from anxiety to avenge the injury which his priest, Chryses, had endured from Agamemnon. For a considerable time the combats of the Greeks against Troy were conducted without their best warrior, and severe indeed was the humiliation which they underwent in consequence. How the remaining Grecian chiefs vainly strove to make amends for his absence, how Hector and the Trojans defeated and drove them to their ships, how the actual blaze of destroying flame, applied by Hector to the ship of Protesilaus, roused up the anxious and sympathizing Pratroklus, and extorted a reluctant consent from Achilles to allow his friend and his followers to go forth and avert the last extremity of ruin; how Achilles, when Patroklus had been killed by Hector, forgetting his anger in grief for the death of his friend, re-entered the fight, drove the Trojans within their walls with immense slaughter, and satiated his revenge both upon the living and the dead Hector, all these events had been chronicled, together with those divine dispensations on which the most of them are made to depend, in the immortal verse of the Iliad."

MONDAY, APRIL 21ST :—AFTERNOON, 2 TO 5.

GREEK PROSE COMPOSITION.

Examiner,.....REV. GEORGE CORNISH, LL.D.

Translate into Greek (accented): —

"We pass from Ion to persons of far greater mythical dignity and interest,—Ægeus and his son Theseus. Pandion had four sons, Ægeus, Nisus, Lykus, and Pallas, between whom were divided his dominions. Nisus received the territory of Megaris, which had been under the sway of Pandion, and there founded the seaport of Nisæa. Lykus was made king of the Eastern coast, but a dispute afterwards ensued, and he quitted the country altogether, to establish himself on the Southern coast of Asia Minor, among the Termilæ, to whom he gave the name of Lykians. Ægeus, as the oldest of the four, became king of Athens; but Pallas received portion both of the South-western coast and the interior, and he, as well

his children, appear as frequent enemies both to Ægeus and to Theseus. Pallas is the eponym of the deme Pallene, and the stories respecting him and his sons seem to be connected with old and standing feuds among the different demes of Attica, originally independent communities. These feuds penetrated into the legend. They explain the story which we find that Ægeus and Theseus were not genuine Erechtheids, the former being denominated a supposititious child to Pandion."

HISTORY OF GREECE AND ROME.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Write a general account of the Hellenic people in the early historical period, noting the four ties which held them together.

2. Describe the Institutions ascribed to Lycurgus, and state the principal aim of his legislation. To what causes may the decay of Sparta be attributed?

3. With what foreign nations in Asia Minor and elsewhere did Greece come into contact, and how was early Grecian civilisation thereby influenced?

4. The causes of the failure of the Persian expeditions against Greece. By what policy did Persia seek to establish an ascendancy in Grecian affairs?

5. Write a sketch of the Athenian expedition against Syracuse, and point out the disastrous results of its failure, both immediate and remote, to Athens.

6. Give an account of the constitutional changes effected by the reforms of C. Gracchus, and point out what was their general object.

7. What was the real grounds and the alleged pretexts, on the part of Rome and Carthage, severally, for beginning the Second Punic War?

8. Give an account of the state of political parties at Rome after the death of Sulla, and trace the steps which led to the establishment of what Mommson calls "The Military Monarchy."

9. Give Mommson's estimate of the character and policy of Julius Cæsar.

10. Define the meaning of the terms:—*Provincia*, *Colonia*, *Municipium*, *Civitas*, *Clientes*, and *Socii*.

GENERAL PAPER.

FRIDAY, APRIL 25TH:—AFTERNOON, 2 TO 5.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. (*a*) Give the proper definition of Comparative Philology: (*b*) Classify the letters of the Greek Alphabet; and state, with illustrations, what you know of Grimm's Law for the interchange of Consonants in the Greek and cognate languages. (*c*) Give in accordance with Grimm's Law the cognate words in Latin, English, and German of the following words referring to (1) parts of the body, (2) to objects of nature:—*πούς, πνεύμον, κεφαλή, γόνυ, γένυς, πυγμή, ἄνεμος, ἅλς, κέρας, νύξ, μήν, ἀστήρ, δόμος, θύρα.*

2. Enumerate the Dialects of the Greek Language, and point out their leading characteristics. To what causes may the origin of these dialects be ascribed?

3. What are the relations to the verb expressed by the several cases? (*b*) What is meant by *casus absolutus?* What cases can be so used in Greek and Latin, respectively?

4. Illustrate the construction of conditional sentences with (1) *εἰ* and Indic. *in protasi*, *ἄν* and Indic. *in apodosi*; (2) *ἐὰν* with Subj. *in prot.*, Indic. *in apod;* and (3) *εἰ* and Optat. *in prot.*, and *ἄν* with Opt. *in apod.*

5. Illustrate from the Latin the characteristic attributed to the Romans of expressing their thoughts in *concrete* rather than in *abstract* and *ideal* terms.

6. I lustrate the use of the moods with *Quum* and *Dum.* Give the reasons of the following constructions:—Alexander, quum *interemisset* Clitum, vix manus a se abstinuit. Gratulor tibi, quum apud Dolabellam *vales.*

7. Compare the powers and uses of the Infinitive in Greek and Latin.

8. Distinguish between the dialect of the Choruses and that of the Dialogue in Greek tragedy. Whence the distinction?

9. (*a*) What was the state of Greek Tragedy before the time of Aeschylus. (*b*) Detail the changes and improvements introduced by him in the composition and representation of Dramas. (*c*) What

was the comparative estimate formed by the Ancients of the three great Greek tragedians.

10. (*a*) Give the names, with dates, of the Greek comedians who succeeded Aristophanes. (*b*) Give Donaldson's classification of Greek plays, with the substance of his remarks on the origin of Comedy and Tragedy among the Greeks. (*c*) Give also the etymology of the terms *τραγῳδία* and *κωμῳδία*.

11. (*a*) An account of the origin and development of Roman satire. (*b*) To what part of Greek dramatic literature does it bear the strongest resemblance?

MATHEMATICS AND NATURAL PHILOSOPHY.

FIRST YEAR.

EUCLID—ARITHMETIC.

WEDNESDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, LL.D. / GEORGE H. CHANDLER, B.A.

1. Equal chords in a circle are equally distant from the centre.

a. Through a point outside a circle draw a right line, such that the part intercepted by the circle shall be equal to a given right line. What must be the limit to the length of the given line?

2. In a given circle inscribe an equilateral and equiangular quindecagon.

3. Triangles which have one angle of the one equal to one angle of the other, and their sides about the equal angles reciprocally proportional, are equal to one another.

4. Cut a given straight line in extreme and mean ratio.

5. Find the number of acres, roods, &c., in the area of a rectangle of which the diagonal is 320 yards long and one side is 240 yards.

6. Divide the sum of $\frac{1}{2} + 2\frac{3}{4} + 3\frac{4}{5}$ by $4\frac{3}{10}$, and multiply one-third of the quotient by 5.

7. Divide a straight line into two parts so that the rectangle contained by the whole line and one of the parts may be equal to the square on the other part.

8. In a circle the angle in a semi-circle is a right angle; but the angle in a segment greater than a semi-circle is less than a right angle; and the angle in a segment less than a semi-circle is greater than a right angle.

9. If the base of a triangle be divided into two parts which have the same ratio which the other sides of the triangle have to one another, the straight line drawn from the vertex to the point of section shall bisect the vertical angle.

10. If two similar parallelograms have a common angle and be similarly situated, they are about the same diameter.

11. Divide .01 by .00001, and multiply the quotient by .6′.

12. A rectangular block of marble is 4 feet 6 inches long, 3 feet 2 inches wide, and 2 feet 6 inches deep; its specific gravity (or the ratio of its weight to that of an equal volume of water) is 2.638; and the weight of a cubic foot of water is 62.5 lbs. Find the weight of the block.

FIRST YEAR.

TRIGONOMETRY—ALGEBRA.

THURSDAY, APRIL 17TH:—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, LL.D. / GEORGE H. CHANDLER, B.A.

1. Find approximately how far two right lines which are inclined to one another at an angle of 1″ should be produced in order that the ends (the lines being equal) should be 1 inch apart.

2. The cosine of an angle is equal to the cosine of its supplement but with an opposite sign.

3. Prove

$$\sin A + \sin B = 2 \sin \tfrac{1}{2}(A + B) \cos \tfrac{1}{2}(A - B);$$

$$\sin A - \sin B = 2 \cos \tfrac{1}{2}(A + B) \sin \tfrac{1}{2}(A - B);$$

$$(\sin A + \sin B)(\sin A - \sin B) = \sin (A + B) \sin (A - B).$$

4. Solve the equations

$$\frac{3}{4} - \frac{x-2}{3} = \frac{5}{4} - \frac{x+3}{4};$$

$$\frac{a - \sqrt{2ax - x^2}}{a + \sqrt{2ax - x^2}} = \frac{x}{a - x};$$

$$x + y = 10;\ x^2 - y^2 = 20.$$

5. Divide $x^2 - xz - y + z\sqrt{y}$ by $x - \sqrt{y}$

6. Find three numbers, such that the first with half the other two, the second with one-third of the other two, and the third with one-fourth of the other two, shall be each equal to 34.

7. Resolve $a^2 xy^3 - x^5 y$ and $x^2 + x - 12$ into elementary factors, and extract the square root of

$$1 - 6x + 15x^2 - 20x^3 + 15x^4 - 6x^5 \; x^6.$$

8. Prove the rule for finding the greatest common measure of two quantities.

9. Reduce the fraction $\frac{x^4 + a^2 x^2 \quad a^4}{x^4 \; a x^3 - a^3 x - a^4}$ to its lowest terms.

10. Define the *sine*, *cosine* and *cotangent* of an angle and find them for the angle 60°.

11. Prove the following relations:

(*a*). $\sin^2 A + \cos^2 A = 1,$

(*b*). $\sec \theta = \frac{1}{\cos \theta},$

(*c*). $\frac{\cos \theta}{\tan \theta \cot^2 \theta} = \sin \theta,$

(*d*.) $1 - \cos A = 2 \sin^2 \frac{A}{2},$

(*e*). $\cos \frac{A}{2} = \sqrt{\frac{s(s-a)}{bc}}.$

12. At 300 feet measured horizontally from the foot of a steeple the angle of elevation of the top is bound to be 30°, what is the height of the steeple?

SECOND YEAR.

SOLID GEOMETRY AND CONIC SECTIONS.

SATURDAY, FEBRUARY 15TH, 1879.—MORNING, 10 TO 12.

Examiner,.....G. H. CHANDLER, B.A.

1. If three straight lines meet all at one point, and a straight line stand at right angles to each of them at that point, the three straight lines shall be in one and the same plane.

2. Draw a straight line perpendicular to a given plane from a given point without it.

3. If two straight lines be cut by parallel planes they shall be cut in the same ratio.

4. Every solid angle is contained by plane angles, which are together less than four right angles.

5. Similar polygons inscribed in circles are to one another as the squares on their diameters.

6. Prove that the section of a cone made by a plane which is parallel to one of the generating lines of the cone, and perpendicular to the plane which contains that generating line and the axis, is a parabola.

7. Prove the following properties of the parabola:—

(*a*) The subtangent is twice the abscissa.

(*b*) The subnormal is half of the latus rectum.

(*c*) A diameter bisects all chords parallel to the tangent at its extremity.

8. From a given point outside a parabola draw a pair of tangents to the curve.

9. What is a hyperbola? Define the asymptotes.

INTERMEDIATE EXAMINATION, 1879.

EUCLID—ARITHMETIC.

MONDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, LL.D.
REV. A. N. MCQUARRIE, B.A.
GEORGE H. CHANDLER, B.A.

1. In equal circles, angles, whether at the centres or at the circumferences, have the same ratio which the circumferences on which they stand have to one another.

2. Describe a square that shall be equal to a given rectilineal figure.

3. If the opposite angles of a quadrilateral figure are together equal to two right angles, a circle can be described about the figure.

4. Divide a given straight line into four parts which shall have the same ratio as the numbers 1, 2, 3, and 4.

5. A cubic foot of brass is drawn into a wire one-tenth of an inch in diameter, find its length.

6. Extract the square root of 1.890625 and verify the result.

7. If a right line be divided into two parts, the square on the whole line is equal to the squares on the two parts, together with twice the rectangle contained by the parts.

8. If a right line touch a circle, and from the point of contact a right line be drawn cutting the circle, the angles made by this line with the line which touches the circle are equal to the angles in the alternate segments of the circle.

9. In right-angled triangles the rectilineal figure described upon the side opposite to the right angle is equal to the similar and similarly described figures upon the sides containing the right angle.

10. In what time will any sum of money quadruple itself at 23 per cent?

11. What is the difference between .734 of a lb., and .198 of an oz. avoirdupois?

12. A clock which loses 4 minutes in 12 hours is 10 minutes fast at midnight on Sunday. What o'clock will it indicate at 6 o'clock on Wednesday evening?

INTERMEDIATE EXAMINATION, 1879,

TRIGONOMETRY—ALGEBRA.

TUESDAY, APRIL 8TH :—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, LL.D.
REV. A. N. MCQUARRIE, B.A.
GEO. H. CHANDLER, B.A.

1. Define the two units of angular measure commonly employed, and find the ratio of the greater to the less.

2. Prove

$$tan\,(A+B) = \frac{tan\,A + tan\,B}{1 - tan\,A\,tan\,B}$$

3. Given $\frac{cos\,(a+\theta)}{sin\,a} = \frac{cos\,(a'-\theta)}{sin\,a'}$, prove that

$$2\,tan\,\theta = cot\,a - cot\,a'.$$

4. Two poles are of equal height; a person standing in the line joining their bases observes the elevation of the nearer one to be 60°; after walking a distance of 80 feet in a direction at right angles to this line he observes the elevation of the two poles to be, respectively, 45° and 30°; find their height and the distance between them.

5. Divide $\frac{8}{5}$ into two parts, so that the numerators of the two parts taken together shall be equal to the denominators taken together.

6. Find x from the following equations:—

$$x + \sqrt{a^2 + x^2} = \frac{n\,a^2}{\sqrt{a^2 + x^2}}$$

$$\frac{x}{x+1} + \frac{x+1}{x} = \frac{13}{6}$$

7. Reduce to its simplest form

$$\left(\frac{2\,x}{x+y} + \frac{y}{x-y} - \frac{y^2}{x^2-y^2}\right) \div \left(\frac{1}{x+y} + \frac{x}{x^2-y^2}\right)$$

8. Prove $cos\ A - cos\ B = -2\ sin\ \frac{1}{2}\ (A+B)\ sin\ \frac{1}{2}\ (A-B)$.

9. In a plane triangle the base is to the sum of the sides in the same ratio as the cosine of half the sum of the base angles is to the cosine of half their difference.

10. A castle stands on a cliff above the sea; its height is 58 feet; from the top and bottom of this castle, the angles of depression of a ship's hull measured from the visible horizon are found to be 5° 47′, and 5° 08′; calculate the ship's distance in *yards*.

11. Solve the equations:—

$$\left.\begin{aligned} a\,x &= b\,y \\ x + y &= c \end{aligned}\right\};$$

$$\sqrt{x - a} = \sqrt{x + \sqrt{b + x}}\ ;$$

12. Divide $16\,x - y^2$ by $2\,x^{\frac{1}{2}} - y^{\frac{1}{2}}$.

13. There are two silver cups and one cover for both. The first weighs 12 oz., and, with the cover, weighs twice as much as the other cup without it; but the second, with the cover, weighs a third as much again as the first without it. Find the weight of the cover.

THIRD YEAR.

HYDROSTATICS—OPTICS.

TUESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner, ... ALEXANDER JOHNSON, LL.D.

1. If R and P be the volume of the receiver and leading-tube and of the barrel respectively of an air pump, H the height of the barometer, find the elastic force of the air in the receiver after n strokes, and the degree of rarefaction.

2. If a prismatic diving-bell, whose height is c, be sunk so that its top is at a depth a, and the height of the water-barometer be h, show that the length (x) of the bell occupied by the compressed air is given by the equation:

$$x^2 + (a + h)\, x - ch = 0$$

3. A pipette is partly filled in the usual way with water, the height of the water above the orifice being six inches; find the elastic force of the air above the water, the height of the barometer being thirty inches, and the sp. gr. of mercury 13.575.

4. The apparent weight of a specific gravity bottle filled with water at 60° is 752.32 grains, when filled with air is 252.51, find the weight of the counterpoise to be used with the bottle, assuming 100 cubic inches of dry air to weigh 31 grains. Give the reasoning with the calculation.

5. Find the weight of 1,000 cubic feet of coal gas whose sp. gr. $= 0.496$, temp. $= 60°$ Fah., and pressure $= 30$ inches; assuming the weight of 100 cubic inches of dry air at same temperature and pressure to be 31 grs.

6. Describe any experiment showing the elasticity of gases.

7. Prove that in the Cassegrainian telescope the distance of the secondary speculum from the focus of the object speculum must be *less* than its own focal length.

8. In the Galilean telescope explain, with the aid of a diagram, the effect of the concave eye-glass for an eye which will not bring parallel rays to a focus on the retina.

9. Light converges upon a convex mirror to a point situated 52 feet behind the mirror; the radius of the mirror is 11 feet; find the conjugate focus. Draw a diagram showing the paths of three of the rays.

10. Define and explain the total reflection of light; and describe an experiment exhibiting it.

11. Give Townsend's construction for determining the path of a ray incident upon a thin lens.

12. A person who can read a book most distinctly at the distance of 30 inches wishes to read it at the distance of 10 inches from the eye; find the kind and the focal length of the spectacles he must use.

THIRD YEAR.

MECHANICS.

WEDNESDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. An imperfectly elastic ball moving with a given velocity impinges obliquely at a given angle on a plane, find its velocity and the direction of motion after impact.

2. Prove the following equation for the trajectory of a heavy particle projected in a vacuum, with a given velocity V and at a given angle e with the horizon:—

$$y = x \tan e - \frac{g x^2}{2 V^2 \cos e}.$$

3. Given the length of a second's pendulum at any place, find the space described in one second there by a body falling in a vacuum.

4. Find the space through which the Moon is drawn in *one minute* towards the Earth from the following data:—

Moon's distance = 60 radii of Earth.
Earth's diameter = 7926 miles.
Periodic time of Moon = 27 d. 7 h. 43 m. 11 s.

5. P and Q are the weights used in Attwood's machine, find the velocity acquired by them in one second.

6. Apply the principle of "constancy of work done" to find the ratio of the power to the resistance in the case of the screw.

7. Calculate the horse-power of a steam-engine capable of raising 750 tons of coal per day of 12 hours from a pit 100 fathoms deep.

8. A body has two velocities given to it, at right angles to each other, equal respectively to 17.14 feet and 13.11 feet per second. Find the magnitude of the resultant motion.

9. State the principle on which the equilibrium of a system of pulleys is determined, and apply it to find the ratio of the Power of the Resistance in a Burton of the first kind.

10. Describe the Roman steel-yard, and the mode of graduating it.

11. The moments of two parallel forces with regard to any point on their resultant are equal and opposite.

a. If three parallel forces be in equilibrium, the sum their moments with respect to any point on their plane is zero.

12. Find the resultant of two component forces, 26 lbs. and 127 lbs. respectively, the angle between them being 76°.

ASTRONOMY—OPTICS.

TUESDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. In the text-book it is said that at the Equator, "the shadows caused by the Sun at mid-day have opposite directions in the two halves of the year, which never happens in our latitudes," where the shadows at mid-day always fall towards the north." Explain this with the aid of diagrams.

2. Name the instruments that must be used, and state the observations that must be made with them in order to make a map of the stars.

3. How may the latitude of a given place be found by observations on a circumpolar star?

4. State the principle of the lunar method of finding the longitude.

a. If the longitude of a place be 73° W., what o'clock is it there, when it is 3 a.m. at Greenwich?

5. The mean diameter of the Sun being 1923″, the mean diameter of the Earth seen from the Sun 17″, calculate the ratio of the length of the Earth's shadow to the Earth's radius.

6. Show how the mass of the Sun is found.

7. Find the distance between the glasses of an astronomical telescope whose object-glass is of 6 ft. focal length, and eye-glass 1 inch, used by a person of average sight, whose eye is adapted to the reception of parallel rays, the telescope being used to view an object 100 feet distant.

8. Define the *dispersive power* of a substance. Assuming the refractive index of crown glass to be 1.55, and the refractive indices of the extreme red and violet rays to be $\frac{77}{50}$ and $\frac{78}{50}$, calculate its dispersive power.

9. Give Townsend's construction for the path of ray passing through a thin convex lens.

10. The radii of a meniscus are 10 and 12 inches, and the distance of the focus of a pencil of incident light from the lens is 200 inches; find the position of the conjugate focus.

11. The bottom of a vessel containing water appears to be 6 inches distant from its surface, what is the real distance, the refractive index of water being $\frac{4}{3}$?

12. Prove that the focal length of a concave spherical reflector is equal to half the radius.

MECHANICS—HYDROSTATICS.

WEDNESDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,..... .. ALEXANDER JOHNSON, LL.D.

1. Prove directly, without using any general formula, that, if an inelastic body impinges on another of twice its mass at rest, the impinging body loses two-thirds of its velocity by the impact.

2. Two heavy bodies of unequal weight are connected by a string, which passes over a fixed smooth pulley. Find the space through which the heavier descends in a given time.

3. The length of the seconds pendulum in London has been shown to be 39.139 inches; hence calculate the dynamical measure of gravity.

4. The plane of a circle, whose radius is l, is vertical, the lengths of the chords from the highest and lowest points respectively of a certain arc to the lowest point of the circle are a and x; find the velocity acquired by a heavy particle in falling down the arc.

a. Prove that the body would acquire the same velocity if it fell down any other curve whatever between the same two points.

5. Find the ratio of the Power to the Resistance in the case of the inclined plane, when the Power is parallel to the length of the plane.

6. In a lever of the third order, the Power and Resistance are 217 lbs. and 100 lbs. respectively, the angle between them is 42°, find the strain on the fulcrum.

7. A cylinder 4 feet high, and 18 inches in diameter, contains oxygen gas at a pressure of 100 lbs to the square inch, find the volume in cubic feet the gas would occupy, if the pressure were reduced to 15 lbs to the square inch.

8. Find the weight of the gas contained in the cylinder mentioned in question 7, the specific gravity of the gas being 1·106; assuming that 100 cubic inches of dry air at the same temperature and at the reduced pressure weigh 31 grs. Give the reason for each step in your calculations, using no formula.

9. A piece of silver weighing 1 oz. in air weighs .905 oz. in distilled water, what is its specific gravity?

10. The upper side of a sluice-gate is 10½ feet beneath the surface, its dimensions are 3 feet vertical by 18 inches horizontal; calculate the pressure upon it in tons.

11. Write down the formula for finding mountain heights by the barometer; state the observations, and the corrections on them to be made before using it, and explain the mode of using it.

12. Given volumes v and v' of two liquids whose specific gravities are s and s' respectively are mixed; find the specific gravity of the mixture. In what cases will the formula not be applicable.

B. A. ORDINARY AND THIRD YEAR.

ELECTRICITY, MAGNETISM AND SOUND.

THURSDAY, APRIL 3RD:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. State the rule for determining the direction of the force on the pole of the magnet in Oersted's experiment.

2. Describe an experiment to show that, while a current of electricity acts on a magnet, as in Oersted's experiment, the magnet also acts on the current. Find on mechanical principles the direction in which the movable wire will be driven.

3. Describe an arrangement for the decomposition of water by the voltaic battery. At which electrode does the oxygen appear?

4. How may a magnet be made to produce induced currents in a metallic circuit? State the direction of the induced currents, considering the magnet as a solenoid.

5. Describe any experiment showing the production of an electric current by heat.

6. Describe any one method of magnetising a needle.

7. How may it be shown experimentally that the *pitch* of a musical note depends solely on the number of vibrations that produce it? Describe any apparatus used.

8. State the laws of the vibration of strings, and describe an experimental method for proving any one of them.

9. Two singing flames enclosed by tubes are in perfect unison; by means of a paper slider one of the tubes is slightly lengthened. State the effect and explain it.

10. Describe Helmholtz's double Siren, and the mode of using it to explain the physical cause of harmony.

11. State the electrical principle on which the action of Hughes' *Microphone* depends.

12. State the points of similarity and the essential difference between Edison's *Phonograph* and Leon Scott's *Phonautograph*.

FIRST YEAR HONOUR EXAMINATIONS.

GEOMETRY.

THURSDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Deduce Brianchon's Theorem from Pascal's Theorem by reciprocation.

2. If two tangents be drawn to a circle, any third tangent will be cut harmonically by the two former, and by the chord joining their points of contact.

3. Describe eight circles touching three given circles.

4. If through any point inside or outside a circle secants be drawn, the straight lines joining the extremities of the chords intersect on the polar of that point.

5. If two circles touch three given circles, the contacts being of the same kind, the three chords of contact meet in a point which is the radical centre of the three, and a centre of similitude of the two.

6. If a variable circle touch two fixed circles, the chord of contact passes through their external centre of similitude when the contacts are of the same kind.

7. Describe a circle which shall pass through a given point, and cut orthogonally two given circles.

8. The straight lines drawn from any point to the six angular points of a complete quadrilateral form a system in involution.

9. If through either of the limiting points of a system of circles having a common radical axis a straight line be drawn intersecting any circle of the system, and if perpendiculars be drawn from the points of intersection to the radical axis, the rectangle under the perpendicular is constant.

10. The base of a triangle passes through a fixed point, the base angles move on two fixed straight lines, and the sides pass through two fixed points, which lie on a straight line passing through the intersection of the two fixed lines; find the locus of the vertex.

11. Given the vertical angle, the perpendicular on the base, and the sum of the two sides; construct the triangle.

12. In a given circle inscribe a triangle whose sides shall pass through three given points.

ALGEBRA.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D

1. If the roots of an equation are a_1, a_2, a_3, a_4, &c., find an expression in terms of the co-efficients for:—

$$\frac{a_1}{a_2} + \frac{a_1}{a_3} + \&c. + \frac{a_2}{a_1} + \frac{a_2}{a_3} + \&c.$$

2. Transform the following equation into another wanting the second term:—

$$x^5 + 5x^4 + 3x^3 + x^2 + x - 1 = 0$$

3. If, in any equation, there be deficient a group consisting of an even number of terms, there are at least as many imaginary roots of the equation.

4. A real root of the equation $f'(x) = 0$ lies between every adjacent two of the real roots of the equation $f(x) = 0$.

5. Solve the equation:—

$$x^8 + 1 = 0$$

6. If the roots of the equation

$$x^3 + px^2 + qx + r = 0$$

are in geometrical progression $rp^3 = q^3$. Hence solve the equation

$$x^3 - x^2 + 2x - 8 = 0.$$

7. Calculate to three decimal places the root, lying between 1 and 2, of the equation

$$x^3 - 3x^2 - 2x + 5 = 0$$

8. Show that the following equation has only one real root, and determine its situation

$$x^3 - 6x^2 + 8x + 40 = 0$$

9. By the method of indeterminate co-efficients prove that

$$\frac{3x^2 - 7x + 6}{(x-1)^3} = \frac{2}{(x-1)^3} - \frac{1}{(x-1)^2} + \frac{3}{x-1}$$

10. Insert three geometric means between $\frac{1}{9}$ and 9.

11. Find the middle term of the expansion of $(1+x)^{2n}$.

12. Find the number of combinations that can be formed out of the letters of the word *Notation*, taken three together.

13. Sum the series

$$\tfrac{1}{3} + \tfrac{1}{2} + \tfrac{3}{4} + \text{&c., to } n \text{ terms.}$$

FIRST YEAR HONOUR EXAMINATIONS.

ANALYTIC GEOMETRY.

THURSDAY, APRIL 24TH:—MORNING, 9 TO 12

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Two conic sections will be similar and similarly placed, if the co-efficients of the highest powers of the variables are the same in both, or only differ by a constant multiplier.

a. If on any radius vector O P to a conic section through a fixed point O, O Q be taken in a constant ratio to O P, show that the locus of Q will be a conic similar to the given conic and similarly placed.

2. Prove that the radius of curvature at any point on an ellipse $= \frac{b'^2}{ab}$

a. Hence deduce the following construction:—

Draw the normal at the point P and erect a perpendicular to it at the point where it meets the axis; at the point Q where this perpendicular meets the focal radius vector, draw a perpendicular to the radius vector, meeting the normal in C, then C is the centre of curvature, and C P the radius of curvature.

3. Given base and the product of the tangents of the halves of the base angles of a triangle; find the locus of the vertex.

4. Prove that if two diameters of a conic section, represented by the general equation, be such that one of them bisects all chords parallel to the other, then conversely, the second will bisect all chords parallel to the first.

5. The length of the normal to an ellipse $= \frac{bb'}{a}$

6. Give a general proof that for all conic sections the rectangles under the segments of the chords which intersect are to each other as the squares of the diameters parallel to those chords.

7. The lines which join the corresponding vertices of a triangle and of its conjugate with regard to a circle, meet in a point.

8. Find the equation of the tangent through a given point to a conic represented by the general equation.

9. Prove by trilinear co-ordinates that the three perpendiculars of a triangle meet in a point.

10. Given the vertical angle of a triangle, find the locus of the point where the base is cut in a given ratio, if the area also is given.

11. Given two fixed lines OA, OB, if any line AB be drawn to intersect them parallel to a third fixed line OC, find the locus of the point P where AB is cut in a given ratio: viz. $PA = n\,AB$.

12. Three right lines will pass through the same point if their equations being multiplied each by any constant quantity, and added together, the sum is identically $= 0$.

CALCULUS.—TRIGONOMETRY.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, LL.D.

1. The expression $\sec x \left(x \sin x - \frac{\pi}{2} \right)$ becomes $0 \times \infty$ when $x = \frac{\pi}{2}$, find the true value, defining this latter.

2. Find six terms of the development of $\frac{e^x}{\cos x}$ in ascending powers of x.

3. If R be the radius of a circle, L the length of any arc, A the chord of the arc, and B that of half the arc, prove the following

approximation, assuming the expansion of the sine of an angle in terms of its circular measure

$$L = 2B + \tfrac{1}{3}(2B - A).$$

4. Differentiate the following expressions:—

$y = e^{ax} \sin^m rx$; $y = \log\{2x - 1 + 2\sqrt{x^2 - x - 1}$

$y = \sin(\log x)$: $y = \dfrac{1 - \tan x}{\sec x}$.

5. If $y = a \cos(\log x) + b \sin(\log x)$

prove that $x^2 \dfrac{d^2y}{dx^2} + x \dfrac{dy}{dx} + y = 0$.

6. Find the formula of reduction for

$$\int \frac{x^m dx}{(a + 2bx + cx^2)^{\frac{1}{2}}}$$

7. Find the integrals

$$\int \tan^4\theta \, d\theta ; \int \frac{d\theta}{\sin^3\theta}$$

8. Find the integrals

$$\int \frac{x^5 dx}{(1 + x^2)^3} ; \int \frac{x \, dx}{(1 + x)(1 + x^2)} ; \int \frac{(1 - x) \, dx}{(1 + x)}.$$

9. Show that the integral of $\dfrac{dx}{x}$ can be obtained from that of $x^m dx$.

10. Find the value of $\displaystyle\int_0^{\frac{\pi}{4}} \sin^2 x \, dx$

11. Prove Gregory's series

$a = \tan a - \frac{1}{3}\tan^3 a + \frac{1}{5}\tan^5 a$ — &c.

12. Prove $2^4 \sin^5\theta = 10 \sin\theta - 5 \sin 3\theta + \sin 5\theta$.

13. If E be the spherical excess, prove that in a spherical triangle

$$\cot\tfrac{1}{2}E = \frac{\cot\frac{1}{2}a \cot\frac{1}{2}b + \cos C}{\sin C}$$

14. In any spherical triangle

$$\sin\tfrac{1}{2}A = \sqrt{\frac{\sin(s - b)\sin(s - c)}{\sin b \sin c}}$$

B. A. EXAMINATION FOR HONOURS.

LUNAR THEORY—NEWTON'S PRINCIPIA.

MONDAY, MARCH 31ST, 1879:—MORNING, 9 TO 1.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Define the plane of the ecliptic, and prove that as seen from the earth

$$\sin l = \frac{\sin l'}{32400} \text{ nearly}$$

where l = sun's latitude, and l' = moon's latitude.

2. If the earth be considered at rest, find the accelerating forces acting on the moon; resolve them, and find the three equations for determining the moon's motion, taking t for the independent variable.

3. Changing the independent variable to θ, find the differential equation of the moon's radius vector.

4. Prove that the *disturbing* force of the sun is of the second order.

5. Describe the general process for the integration of the differentialequations.

6. Calculate $\sin 2(\theta - \theta')$ and $\cos 2(\theta - \theta')$ to the first order; and $\frac{P}{h^2 u^2}$ as far as is necessary to solve the equation of the radius vector to the second order.

7. Taking the values found in the answer to the previous question, and assuming

$$\frac{T}{h^2 u^3} = -\tfrac{3}{2} m^2 \left\{ \sin\left[(2-2m)\theta - 2\beta\right] - 2e \sin\left[(2-2m-c)\theta - 2\beta + a\right] + \tfrac{5}{2} e^2 \sin\left[(2-2m-c]\theta - 2\beta + 2a\right\}\right.$$

Solve the differential equation of the radius vector to the second orerd

8. Explain the physical meaning of the term

$$-3 m e' \sin(m pt + \beta - \zeta)$$

in the expression for the moon's longtitude.

a. Show how to calculate the difference between the lengths of the winter and summer months due to this term.

9. Explain the effect of the term

$$m^2 a \cos\{(2 - m \text{ '} - 2\beta\}$$

in the expression for the radius vector.

a. Show how Newton obtains the same result.

10. Find in Newton's manner the effect of the central disturbing force on the eccentricity.

11. Investigate also the effects of the ablatitious force on the motion of the nodes (Lib. I Prop 66, Cor. 11).

12. A body describes an ellipse; find the law of the force, if it tend to the centre of the ellipse.

13. Find the velocity at any point of a conic section described about a centre of force in the focus.

14. Two bodies attracting each other describe similar figures about their centre of gravity, and about each other.

MECHANICS. (*First Paper.*)

WEDNESDAY, APRIL 16TH :—MORNING, 9 TO 1.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. State and prove the principle of the conservation of areas.

2. A spherical shell, the interior radius of which is one-half of the exterior, is filled with fluid of the same density as itself, find the ratio of the space through which it would roll from rest, in a given time, down a perfectly rough inclined plane, to that which would be described by a solid sphere of the same size and weight rolling down the same plane.

3. If a rigid body be in motion in any manner about a fixed point :—

a. Prove that there is at every instant an "instantaneous" axis of rotation.

β. Find the equation of this axis referred to the principal axes of the body at the point.

4. *a*. Find the equation of the cone the instantaneous axis describes in the body when there are no impressed forces.

β. Show that the motion of the body in this case may be represented by the *rolling* of this cone on another cone.

γ. Prove, that if the angular velocity about the axis be constant, we have :—

$$\frac{B-C}{A} + \frac{C-A}{B} + \frac{A-B}{C} = 0$$

5. Given the positions of the principal axes at the centre of gravity of a body and the moments of inertia about them, show that the positions of the principal axes and the principal moments for any other point may be found by the aid of the cone whose vertex is the given point, and which envelopes any quadric confocal with the ellipsoid of gyration at the centre of gravity.

6. Show that the radius of gyration of a triangular lamina A B C about an axis, through A, at right angles to its plane, is givenby

$$k^2 = \tfrac{1}{12}(3\,b^2 + 3\,c^2 - a^2).$$

7. Supposing the force which acts on the crank of a steam-engine to be vertical and to vary as the sine of the angle through which the crank is turned ; find the angular velocity of the crank in any position, the moment of the resistance being always equal to half the greatest amount of the forces, and the moment of the weight of the crank being regarded as inconsiderable.

8. Find equations for determining the motion of a body about a fixed axis under the action of any forces, (1) impulsive, (2) finite.

9. A flexible chain of uniform thickness moves upon two inclined planes of the same height placed back to back ; find, by D'Alembert's principle, its tension at any point.

10. A uniform rod of a given length hangs horizontally by two equal vertical strings attached to its ends ; if it be twisted horizontally through a very small angle, so that its centre of gravity remains in the same vertical line, find the time of an oscillation, the inertia of the strings being neglected.

11. A rigid system at rest is struck by any system of simultaneous blows ; determine the position and velocity of a straight line rigidly connected with the system, which, on the application of the blows, has no motion but in the direction of its length.

12. A cylinder is revolving with a given angular velocity round its axis which is horizontal, when it suddenly begins to draw up a weighd consisting of inelastic materials, by means of an inextensible string wounn round the cylinder ; determine the time the cylinder will continue it motion, and the original distance of the weight from the cylinder, that at the instant the motion ceases the weight may just touch the cylinder.

MECHANICS. (*Second Paper*).

MONDAY, APRIL 21ST:—MORNING, 9 TO 12.

Examiner,..... .....ALEXANDER JOHNSON, LL.D.

1. Investigate the equation of continuity for a fluid in motion.

2. A column of air being supposed to vibrate longitudinally in a cylindrical tube of indefinite length; explain from the equations of propagation why in general two opposite waves start from every transverse section within the interval of original disturbance, while but one passes any section without it.

3. Determine the musical notes which can be produced from a tube closed at one end.

4. Prove that the velocity of propagation of the transversal vibrations of a string is the velocity which would be acquired by a heavy body falling through half the length of a portion of the cord of which the weight is equal to the tension.

5. If a shell of uniform density be bounded by two ellipsoidal surfaces, which are concentric, similar, and similarly situated, the resultant attraction on an internal particle vanishes, the law of attraction being the law of nature.

6. Find what laws of attraction allow us to suppose a spherical shel condensed into its centre when attracting an external particle.

7. Define Potential of an attracting mass for any given point, and prove that surfaces for which the potential is constant are surfaces of equilibrium.

8. If V be the potential, S any closed surface to which the whole of the attracting mass is external, dS an element of S, dn an element of the normal drawn outwards at dS, prove that

$$\iint \frac{dV}{dn} dS = 0$$

the integral being taken throughout the whole surface S.

9. Investigate the equations of motion of Blackburn's pendulum, and solve them. Trace one of the Lissajous' curves that corresponds to the case where the distance of the bob from the line joining the fixed points is four times its distance from the knot.

10. Find the time of motion of a planet through any part of its elliptic orbit.

11. Find the time of descending from rest at any point of an inverted cycloid to the vertex.

12. Two particles projected in any manner are acted on solely by their mutual attraction; prove that the line joining them is always parallel to a fixed plane.

SURFACES.

TUESDAY, APRIL 22ND:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D,

1. Along a line of curvature the variation in the angle between the tangent plane to the surface and the osculating plane to the curve is equal to the angle between the two osculating planes.

2. Find the partial differential equation of conoidal surfaces.

3. Find the cylinder the direction cosines of whose edges are l, m, n, and which envelopes the quadric $Ax^2 + By^2 + Cz^2 = 1$.

4. If there be three systems of surfaces such that every surface of one system is cut at right angles by all the surfaces of the other two systems, then the intersections of two surfaces belonging to different systems is a line of curvature on each.

5. If D be the diameter of a quadric parallel to the tangent line at any point of its intersection with a confocal, and p the perpendicular on the tangent plane at that point, then $p\,D$ is constant for every point on that curve of intersection.

6. If there be a plane curve common to three quadrics, each pair must have also another common plane curve, and the three planes of these last common curves pass through the same line.

7. Find the equation of the cone whose vertex is $x'\,y'\,z'$, and which stands on the conic in the plane of $x\,y$,

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

8. Two planes mutually perpendicular pass each through a fixed line; find the surface generated by their line of intersection.

9. Any two circular sections of an ellipsoid belonging to opposite systems lie on the same sphere.

10. The sum of the squares of a system of three conjugate semi-diameters is constant.

11. Find the condition that the plane $\alpha x + \beta y + \gamma z + \delta w$ should touch a quadric given by the general equation.

12. Find the condition of intersection of the two lines :—

$$\frac{x - x_1}{a_1} = \frac{y - y_1}{b_1} = \frac{z - z_1}{c_1}$$
$$\frac{x - x_2}{a_2} = \frac{y - y_2}{b_2} = \frac{z - z_2}{c_2}$$

CALCULUS.

THURSDAY, APRIL 24th :—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, LL.D.

1. Find the condition that must be satisfied in order that a partial differential equation of the first order of the form $u = f(v)$ may lead to a partial differential equation of the second order of the form :—

$$Rr + Ss + Tt = V$$

2. Integrate by Monge's method the equation

$$sb + cq^2 s\, r - 2\,(b + cqs\,(a + cp)\, s + (a + cp)^2\, t = 0$$

3. Prove that the partial differential equation of the first order, which results from a primitive of the form $u = f(v)$, where u and v are determinate functions of x, y and z, is necessarialy linear.

4. Deduce the general primitive and singular solution of the equation $z = pq$.

5. Find the partial differential equation of cylindrical surfaces.

6. Find the complete solution of the equations

$$(5y + 9z)\,dx + dy + dz = 0\ ;\ (4y + 3z)\,dx + 2\,dy - dz = 0$$

7. Find the complete primitive of the equation

$$(y^2 + yz + z^2)\,dx + (x^2 + xz + z^2)\,dy + (x^2 + xy + y^2)\,dz = 0$$

8. Find the family of curves in which the radius of curvature is equal to $f(x)$.

9. Solve the equation

$$x^3 \frac{d^2y}{dx^2} = \left(y - x\frac{dy}{dx}\right)^2$$

10. Integrate

$$\frac{d^2y}{dx^2} - 2bx\frac{dy}{dx} + b^2x^2y = 0$$

11. Apply the method of the variation of parameters to the solution of the equation

$$\frac{d^2y}{dx^2} + n^2y = \cos ax.$$

12. Find the singular solution and the complete primitive of the equation

$$y\frac{dy}{dx} - x\left(\frac{dy}{dx}\right)^2 m = 0$$

13. Find the necessary and sufficient condition that $M\,dx + N\,dy$ shall be an exact differential.

EXPERIMENTAL PHYSICS.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,..... ...ALEXANDER JOHNSON, LL.D.

1. Compare Young's theory of diffraction with Fresnel's, and describe any observations by which the former was proved to be incomplete.

2. In the case of the diffraction fringes produced by a single edge, show mathematically that when the position of the screen is varied the successive points of the same fringe belong to an hyperbola whose summit is the edge of the obstacle.

3. State Newton's explanation of the colours of thin plates. What is the assumption in this theory, and how is it disproved?

4. State Brewster's law for the angle of polarization of light.

5. Give an account of Sir William Hamilton's discovery of conical refraction, and describe Dr. Lloyd's experimental method of verifying it in the *external* case.

6. Describe the construction of a *Nicol's prism*, and explain its action.

7. Give an account of Mayer's method for calculating the mechanica equivalent of heat.

8. The velocity of the draught of a chimney may be determined by the formula

$$v = \sqrt{2\,g\,a\,(t' - t)\,h}$$

where a = coeff. of expansion of air, h = height of chimney, t' = mean temperature inside chimney, t = temperature of surrounding air.

9. The density of iron being 7.8 and of copper 8.8, what must be thickness of wires of these materials of the same length and equally stretched so that they may give the same sound.

10. Explain why when two musical notes of the same intensity produce beats, the sound varies between silence and a tone of four times the intensity of either of the interfering ones.

11. Show that in any given combination of voltaic cells, the maximum effect is obtained when the total resistance in the cells is equal to the resistance in the interpolar.

12. The resistance of a galvanometer is half an ohm, and the deflection when the current of a cell is passed through it is 30°. When a wire of 2 ohms resistance is introduced into the circuit the deflection is 15°, find the internal resistance of the cell.

ENGLISH RHETORIC, AND HISTORY.

FIRST YEAR.

ENGLISH LITERATURE.

MONDAY, APRIL 7TH:—MORNING, 9 TO 12.30

Examiners,..... { VEN. ARCHDEACON LEACH, LL.D.
CHAS. E. MOYSE, B.A.

[*Not more than twelve questions are to be answered. Any of these may be selected either from group A or from group B.*]

A. 1. What books did King Alfred write?

2. Give an account of the compilation known as the "Gesta."

3. Who were the Troubadours? the Trouvères?

4. Tell what you know concerning John Gower's "Confessio Amantis."

5. Who wrote the following works; "The Vision concerning Piers the Plowman." The Falls of Princes, "The Pastime of Pleasure." Make a note or two concerning the contents of any of these books.

6. What works of literary worth did Scotland produce during the fourteenth and the fifteenth centuries?

7. What are the chief processes by which the Anglo-Saxon language has become modern English?

8. To what extent has our English vocabulary borrowed from the Latin and the Greek?

B. 1. Tell the story of the battle of Cattraeth, and show that the "artistic eminence" of the Celt pervades his literature.

2. Describe (*a*) a Miracle, (*b*) a Mystery play, written by Hilarius. Trace the development of such plays, and explain the purport of "The Shepherds' Play."

3. Give a detailed account of the *later* Euphuism.

4. Describe the Dryden and Howard controversy. Why is it noteworthy?

5. What do you mean by the period of Popular Influence? Give an account of the work which inaugurated it.

6. Trace the progress of English journalism, commenting especially upon "The Anti-Jacobin."

7. Show that "Robinson Crusœ" is an allegory. What was the import of Swift's "Gulliver's Travels?" Give an account of the most famous works of Henry Fielding and Samuel Richardson.

8. Show that the French Revolution was an inevitable event. How did it influence (a) Wordsworth, (*b*) Coleridge, (*c*) Mackintosh.

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE.

FRIDAY, APRIL 4TH:—MORNING, 9 TO 1.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.
A. N. MCQUARRIE, B.A.

(*Not more than fourteen questions are to be answered. Any one of these may be selected either from group A or from group B. All the questions are of equal value.*)

A 1. Mention the four periods of English History.

2. In the history of European Society, what two events mark the close of the "*Middle Ages.*"?

3. Describe the natural development of Literature among a people, and point out the *peculiar character* of Anglo-Saxon Literature.

4. Give some account of the poem of Caedmon.

5. Mention the events which mark the thirteenth century as a decisive epoch in the Constitutional History and intellectual progress of England.

6. Give some account of the Latin Tales, with an outline of "*The Seven Sages.*"

7. State what you know about the Romances of Chivalry, and give an outline of the story of Havelok.

8. Give a biographical sketch of Chaucer, with an outline of th Prologue to the Canterbury Tales.

9. Mention the principal Metrical productions of Scotland during the fourteenth and fifteenth centuries:—Name the best British poet of this age, and point out his merits and blemishes.

10. Describe the process by which the Anglo-Saxon passed through the state of decay into the regular English.

11. What classes of words are of Anglo-Saxon origin?

12. Cite a few Celtic words still used by us. Has English speech borrowed from the Scandinavians?

13. What famous translations of the Bible into English were printed during the sixteenth century?

14. Give some account of the style and writings of Sir Thomas More noting date and reigning sovereign.

15. By which of his works is Thomas Fuller most widely known? Give dates and a description of his style.

16. What chiefly contributed to the fame of "Burton's Anatomy of Melancholy." (*b*) When and what did Abraham Cowley write? Compare the styles of his poetry and prose.

B. 17. "The first Blast of the Trumpet against the Monstrous Regiment of Women." Who wrote this book? Its date? The meaning of the word "Regiment?" Give the substance of the arguments in "The First Blast." What was the immediate political and literary influence of the work?

18. "The Rise of the Modern Drama was *not* from a Modification of the Miracle-Plays."—*Henry Morley.* Can you substantiate this assertion? Explain clearly the difference between (*a*) a Miracle, (*b*) a Mystery Play.

19. Dryden speaking of our first tragedy, says: "For many years before Shakespeare's plays was the tragedy of Queen Gorboduc in English verse." Comment on this statement, and give the plot of the play referred to.

20. Biron, in Love's Labour's Lost, speaks of

> "Taffeta phrases, silken terms precise,
> "Three-piled hyperboles, spruce affectation,
> "Figures pedantical."

Relate clearly the origin, progress, and decay of the writing alluded to. Is Biron its only Elizabethan satirist?

21. Give an account of the Martin Marprelate controversy.

22. When was Edmund Spenser's "Shepheard's Calendar" written? Whence did the poet take the name "Colin Clout," and how did he find it used? Who are introduced as "good Algrind" and "Morrell," and why?

23. Name some "Miscellanies" of poetry published in Elizabeth's reign. Give reasons for the publication of this form of literature, and compare the contents of two of the most famous of these Elizabethan compilations. Had they any influence on later writers?

24. Spenser in one of his letters speaks of "one that writing a certain book called 'The Schoole of Abuse' was for his labour scorned." Who wrote "The Schoole of Abuse?" When? To whom was it dedicated? What subject does it deal with? By whom was it scorned?

25. Make a few remarks concerning Sir Philip Sidney's "Apologie for Poetry." In what sense does Sidney use the word "Poetry?"

26. Show how primitive pastoral poetry had been modified before the time of Sidney's "Arcadia." When was that book written? Tell what you know concerning its contents.

27. Describe the old inn-yard theatre.

THIRD YEAR.

RHETORIC.

THURSDAY, APRIL 17TH:—MORNING, 9 TO 1.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. It is said that, "In order to influence the will, two things are requisite";—Mention the two things here referred to and explain them, with appropriate illustrations.

2. Show the importance that attaches to "the Statement of the Case," whenever argument is employed.

3. Which are the conditions under which appeals to the passions are properly called "unfair."

4. Why is so much stress laid by Rhetoricians upon "indirectness" in all appeals to passion and feeling?

5. How does it happen that hortatory sermons are commonly ineffective, and yet in some cases are very exciting?

6. Whately says—"It has seldom, if ever, been noticed, how important among the intellectual qualifications for the study of history is a vivid imagination"—Give the substance of what was said on the subject.

7. Explain and illustrate the subject of "diversion of feelings."

8. Give the substance of the remarks on the subject of the "relativity of Eloquence."

9. Besides "the appropriate occasions for the use of generic language," mentioned by Whately, what others are there?

10. Give an analytical outline of Blair's lecture on the rise and progress of Language.

11. Dr. Bain says, "all our intellectual powers are reducible to three simple modes of working."—Mention these modes and the figures of speech that appertain to each of them.

12. Show that images drawn from nature, external or internal, are those best adapted to poetical productions of the highest kind.

13. When or in what cases are Epithets important enough to justify their use?

14. Which are the two essential things that make an Antithesis pleasing and effective?

15. Mention some of the various appellations used to distinguish different styles.

16. Mention the four important conclusions in regard to the subject of the Ludicrous.

FOURTH YEAR.

CHAUCER:—*The Prologue to the Canterburg Tales and the Knights Tales.*

FRIDAY, APRIL 4TH, 1879:—MORNING, 9 A.M. TO 1 P.M.

Examiners,..... ..... { VEN. ARCHDEACON LEACH, LL.D. / CHAS. E. MOYSE, B.A.

1. Show how Chaucer's greatest work differs from Boccaccio's Decameron in (*a*), the occasion of tale-telling, (*b*) the tale tellers, (*c*) the tales.

2. How do you know that the "Prologue" and "The Knightes Tale" are two of Chaucer's latest writings? To which "group" does "The Knightes Tale" belong? Give the tales of that "group," and name the artifice by which the poet connects his "groups."

3. "At the Tabard as I lay,"
What does the word Tabard mean? its etymology? Make a note or two concerning the site and the later history of the Tabard.

4. "Wel nyne and twenty in a companye,"
Can you reconcile this number with the list given in the Prologue? State the "forward" the pilgrims made before they started. How long, according to internal evidence, did the journey take? Had Chaucer nearly completed his design when he died?

5. Into what leading dialects of Early English was Anglo-Saxon broken up? Can you give an inflection by which those dialects may be distinguished? Name the sub-dialect in which Chaucer wrote.

6. Render the following extracts into modern English, and say to which pilgrim each refers.

A Of twenty yeer of age he was I gesse
Of his stature he was of evene lengthe
And wonder*ly* *delyvere* and gret of strengthe.
And he hadde be*en* somtyme in *chivachie*,
In Flaundres, in Artoys and Picardie
Embrowded was he as it were a mede
Al ful of fresshe floures, white and reede.
Syng*ynge* he was or *floytynge*, al the day
He was as fressh as is the moneth of May
So hot*e* he lovede, that by *nightertale*
He sleep no more than doth a nightyn*gale*.

B Therfore he was a *pricasour* aright;
Greyhoundes he hadde as swift*e* as fowel in flight;
Of *prikyng* and of hunting for the hare
Was al his lust, for no cost wolde he spare.
I saugh his sleves *purfiled* atte honde
With *grys*, and that the fyneste of a londe.....

His heed was balled that schon as eny glas,
And eek his face as he hadde ben anoynt.
He was a lord ful fat and *in good poynt;*
His eyen *steepe* and rollying in his heede;
That *stemede* as a *forneys* of a *leede.*

C Of his complexioun he was sangwyn.
Wel lovede he by the *morwe* a sop in wyn
An houshaldere and that a gret was he;
Seynt Julian he was in his countre
His breed, his ale, was alway *after oon;*
A bettre *envyned* man was *nouher noon.*
Ful many a fat partrich hadde he in *mewe,*
And many a brem and many a *luce* in *stewe.*
Woo was his cook, *but if* his sauce were
Poynaunt and sharp and redy all his gere.
An *anlas* and a *gipser* al of silk
Heng at his girdel, whit as morne mylk.

D. He was schort schuldred, brood, a thikke *knarre,*
Ther *nas* no dore that he *nolde* heve of *harre;*
His mouth as wyde was as a gret forneys,
He was a jangler and a *golyardeys*
And that was most of synne and harlotries
Well cowde he stele corn and tollen thries,
And yet he hadde a *thombe of gold pardé*
A whit cote and a blew hood werede he.

7. Comment on the italicized words or parts of words in the extracts, having regard to one or more of the following points: (*a*) etymology or meaning, (*b*) inflection, (*c*) allusion.

8. Give examples of the reducing of older inflections to the Early English final *e*.

9. When is the final *e* of Chaucer's verse not to be sounded? Scan extracts A and B.

10. Explain the words or parts of words in italics: *me thinketh;* a *not-heed* hadde he; on *that other* side; a *Christofre;* no *ferthing* seen of greece; *estatlich*; *wastel* breed; *gauded* al with greene; The reule of *seynt Maure* or of *seint Beneyt;* som*del streyt; reccheles;* make himselven *wood; for*-pyned goost; a ful *solempne* man; pleyen on a *rote; yeddinges;* tappe*stere;* he *lipsede; eyghen* (explain all the forms known to you); *him* was *lever* have; *sownynge* in moral vertu; *i*-knowe; *pers; taffeta; sendal; reeve; dragges; letuaries; gat-tothed;* ne of his speche *dangerous; mormal;* In Galice *at Seynt Jame* and at *Cologne;* took by *taille;* al*gate; stoor; mester; pomely, grey; sauceflem;* he was a gentil *harlot;* an *ale-stake* (of what proverb does

this remind you?) *burdoun; vernicle; bretful;* oure *lady* veyl; *gobet* of the seyl; cross of *latoun; alther*best.

11. Briefly tell the story of "The Knightes Tale." What was its source and how has Chaucer improved upon the original?

Modernize and comment on the words italicized:

And if he herde song or instrument
Then wolde he wepe, he mighte nought be *stent.*
And in his geere for al the world he ferde
Nought oonly lyke the loveres maladye
Of *Hereos,* but rather lik *manye*
Engendered of *humour melancholyk*
Byforen in his *selle fantastyk.*
And schortly turned was al up so doun
Bothe habyt and eek disposicioun
Of him, this woful lovere *daun* Arcite.

12. "A dramatic spirit pervades Chaucer's poetry." Criticize this assertion.

B. A. ORDINARY EXAMINATION.

HISTORY (GIBBON).

FRIDAY, APRIL 18TH:—AFTERNOON, 3 TO 5.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. What titles did Augustus assume? What provinces were added to the Roman Empire after his death? By whom?

2. Who were the Goths, the Franks and the Suevi? Describe the three naval expeditions of the Goths in the third century.

3. For what events was the reign of Diocletian remarkable?

4. Tell what you know of the life and reign of the Emperor Julian.

5. Sketch the career of Athanasius.

6. Give an account of the three sieges of Rome by the Goths under Alaric.

7. What do you know of Belisarius?

8. Relate the conquest of Spain by the Arabs and their subsequent invasion of France.

9. Discuss the origin of the Russians.

B. A. ORDINARY EXAMINATION.

HISTORY (HUME).

FRIDAY, APRIL 18TH:—MORNING, 9 TO 12.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. What traces of the occupation of Britain by the Romans still exist?

2. Explain these terms: Comes littoris Saxonici, atheling, Bretwalda, wergild, bocland, frankpledge, scutage, aid, Danelagh, Danegelt.

3. Tell the story of the struggle between King and Church in the reign of Henry II.

4. State when and how the English, (*a*) acquired, (*b*) lost, their possessions in France.

5. Name, in chronological order, the leading events of the reign of Edward I. *or* of Edward VI.

6. On what grounds did Henry VII. lay claim to the throne? Enumerate famous insurrections which occurred during the Tudor period. Make a few notes concerning any one of them.

7. Notice the successive measures by which the ties between the Church in England and the Papal Court were severed.

8. Mention the immediate causes which led to the Great Civil War between King and Parliament. Trace the fortunes of the combatants.

9. Comment on the following: Statute of Præmunire, Statute of Six Articles, Act of Supremacy, Petition of Right, Test Act.

10. Sketch the career of any one of the prominent Statesmen of Charles II.'s reign.

11. Give a brief outline of Monmouth's rebellion.

12. It is said that James II.'s reign "consists of attempts always imprudent, often illegal, sometimes both, against whatever was most loved and revered by the nation." Exemplify this statement.

THIRD YEAR EXAMINATION FOR HONOURS IN ENGLISH.

HISTORY OF ENGLAND

HALLAM, BACON, *Henry VII—*, *Constitutional History, Caps. i., ii.. iii.*

MONDAY, APRIL 21ST:—AFTERNOON, 2.30 TO 5.30.

Examiners, ... { VEN. ARCHDEACON LEACH, D.C.L. / CHAS. E. MOYSE, B.A.

1. Hallam says that five checks upon the Royal authority existed at the accession of Henry VII. Enumerate them.

2. Bacon writes of Henry VII,—"There were fallen to his lot and concurrent to his person three several Titles to the Imperial Crown." What were they, and what remarks does Bacon make concerning them?

3. Review the fiscal policy of Henry VII. and describe its effect upon the people.

4. How does Bacon argue about the ordinance by which Henry VII. endeavoured "to take away depopulating Inclosures and depopulating Pasturage."

5. "That memorable act which at this day is called Poyning's Law." Tell what you know of this law?

6. Reproduce the outline of Bacon's account of Perkin Warbeck.

7. What money exactions did Wolsey ask the Parliaments of 1523 and 1525 to sanction? Relate his subsequent arbitrary attempts to fill the exchequer by means of *loans* and *benevolences*.

8. How did the Tudors alter the old Statute of Treasons of Edward III.?

9. State the successive measures by which Henry VIII. broke off his connection with the Papacy. Does Hallam hold corporate property to be inviolable?

10. Tell something of the history of the "persecution" carried on against the English Catholics by Elizabeth.

11. Is Hallam of opinion that the execution of Mary Queen of Scots can be vindicated?

POPE:—*An Essay on Criticism.*

THURSDAY, APRIL 24TH:—MORNING, 9 TO 11.30.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Make a few remarks on Pope's early mental training, and name writings which seem to have suggested to him *An Essay on Criticism.*

2. Criticise the following statement concerning *An Essay on Criticism*,—"The Observations follow one another without that methodical Regularity which would have been requisite in a Prose Author."—*Addison.*

3. Quote from *An Essay on Criticism* any lines whose sound is an echo to the sense. Do you think Pope has succeeded in this Imitative poetry? Can you cite examples of imitation from other writers?

4. Comment on these lines:—

(*a*) Unlucky as Fungoso in the play.
(*b*) Pride, Malice, Folly, against Dryden rose.
(*c*) But critic-learning flourished most in France.
(*d*) But we, brave Britons, foreign laws despised.

Give the contexts of,—

(*a*) A little learning is a dangerous thing.
(*b*) True ease in writing comes from art, not chance.
(*c*) The bookful blockhead ignorantly read.
(*d*) For Fools rush in where Angels fear to tread.

5. Reproduce as faithfully as you can the chief remarks used to show

(*a*) Why the Ancients should be studied by a critic.
(*b*) The causes which hinder a true Judgment.

6. Give the substance of that part of the History of Criticism, as told in the *Essay*, which relates to the Greek and Latin Classic authors.

7. To what contemporary writers does Pope allude? Can you quote the lines of reference? Do you think Pope's criticism of their merits a just one?

8. Write a short essay, discussing,

(*a*) Pope's poetical merit as shown by *An Essay on Criticism.*
(*b*) The place of *An Essay on Criticism* in English Literature.

[Style will be taken into consideration.]

THIRD YEAR.

ENGLISH LITERATURE; (*Introductory Course.*)

THURSDAY, APRIL 24TH:—AFTERNOON, 3 TO 5.

Examiners, ... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Justify, on general grounds, the periods of English Literature given in the course.

2. What element, seen in our best writing, has the Celt added to the English character?

3. Roger Ascham says an Englishman Italianated is "he that by living and traveling in Italie bringeth home into England out of Italie, the religion, the learning, the policie, the experience, the maners of Italie." Sketch the history of the influence of these "Englishmen Italianated" on their own Literature.

4. Why did France influence English writing during the latter half of the seventeenth century? Discuss that influence.

5. "Really there are innumerable reasons why we ought to know this same French Revolution as it was"—*Carlyle.* Show that one of these reasons is that we may understand aright the English literary thought of the nineteenth century.

6. "Ye have lived for them in vain;
In vain for Crusca and his skipping school."

Tell what you know about "Crusca" and his "skipping school." Why are they worth consideration?

B. A. EXAMINATION FOR HONOURS IN ENGLISH.

ENGLISH LITERATURE.

SHAKESPEARE:—*Love's Labour's Lost: A Midsummer Night's Dream; Hamlet; The Tempest.*

MONDAY, MARCH 31ST:—MORNING, 9 TO 1.

Examiners, ... { VEN. ARCHDEACON LEACH, LL.D.
CHAS. E. MOYSE, B.A.

1. Show by reference to the plays of Shakespeare how our Elizabethan dramatists treated the "Unities" of Dramatic art. (*b*) Defend the treatment against French criticism. (*c*) When was that criticism rampant, and who were its English advocates?

2. Gervinus, speaking of Love's Labour's Lost, says, "The tone of the Italian School prevails more than in any other play." (*a*) What is meant by "the Italian School"? (*b*) What characters speak in the "tone," and in what relation do they stand to the other actors in the comedy?

3. How does its style lead us to infer that "Love's Labour's Lost" is one of Shakespeare's earliest dramas?

4. Explain the title "A Midsummer Night's Dream." (*b*) Refute the following statement concerning this play: "The presence of an underlying motive, the great art and true magic wand of the poet, has here been entirely disregarded." (*c*) How and why has Shakespeare in this comedy allegorically appealed to the history of his country?

5. (*a*) Sketch the character of Puck, and derive his name. (*b*) Have the Athenian mechanicals any individuality?

6. What do you consider to be the most marked traits of Hamlet's character? Show that the murder of Polonius is a turning-point in Hamlet's mental life.

7. What striking contrasts do the characters (*a*) of Hamlet and Laertes, (*b*) of Polonius and Hamlet's father, as described by others, afford?

8. The Tempest has been said to depict the futile struggle of evil against good. Discuss this criticism, appealing to the play for your arguments.

9. Is Caliban, in your opinion, a link between man and the brute? (*b*) Is Ariel a spirit of like nature to Puck?

10. State some important differences between Elizabethan and modern English.

(*b*) Justify

(1) It lifted up *it* head (Folio).
(2) My old bones *aches* (Folio).

11. Comment on the words in italics:—*Collied* night; In maiden meditation, *fancy free*; than *lob* of spirits *By'rlakin* a *parlous* fear; The *nine men's morris* is filled up with mud; my *incony* Jew; I go *woolward* for penance; a quick *venue* of wit; *Unhousel'd disappointed, unaneal'd*; whose lungs are tickle *o' the sere*; little *eyases*; I know a hawk from a *handsaw*; *peak*, like *John-a-dreams*; Marry, this is *miching mallecho*, it means mischief; their *even* christian; woot drink up *eisel*; The King doth *wake* tonight and takes his *rouse*, Keeps *wassail* and the swaggering *up spring reels*; it *out-herods Herod*; Fall to't *yarely*; and who To *trash* for overtopping; *urchins* Shall exercise on thee; Young *scamels* from the rock; here's a maze trod indeed through *forth-rights* and meanders!; *glistering* apparel.

12. Define, (1) an Alexandrine, (2) a Trimeter Couplet, (3) Amphibious Section. (*b*) When is Shakespeare fond of writing "short" verses? (*c*) Scan

(1) A maid of grace and complete majesty.

(2) Of Jacques Falconbridge solemnized.

(3) To show his teeth as white as whale's bone.

(4) How now spirit, whither wander you?

(5) O me! you juggler, you cankerblossom.

(6) Most radiant Pyramus, most lily-white of hue.

(7) He thinks me now incapable, confederates.

(8) 'Tis sweet and commendable in your nature, Hamlet.

(9) With sore distraction what I have done.

(10) *Mir.*, I ever saw so noble.

Pros. It goes on, I see.

CONSTITUTIONAL HISTORY OF ENGLAND.

MONDAY, APRIL 21ST:—MORNING, 9 TO 1.

Examiners..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Give a few reasons why Constitutional History is worthy of careful study.

2. In what European State has Feudal Government run its logical career? Sketch that career.

3. "The (*German*) tribes whom Cæsar knew by report were in a state of transition from the nomadic life to that of settled cultivation."—*Stubbs.* Amplify this statement by comparing Cæsar's description of the German polity with that of Tacitus.

4. "The true kernel of all our political life must be looked for in Switzerland in the *Gemeinde* or *Commune*; in England, smile not while I say it, in the parish vestry."—*E. A. Freeman.* Illustrate this quotation by noticing. (*a*) The *mark* system. (*b*) The theory of early allotment among the Germans in England. (*c*) The *Landesgemeinden* of Uri and Appenzell. (*d*) Village life among the Santals of Lower Bengal.

5. In what respect does the Teutonic conquest of England differ from the subjugation of Gaul by Clovis? Name two great and inevitable changes in the polity of England, directly caused by German invasion.

6. Discuss the organisation of the *Hundred*. State the functions of the Courts of the Hundred and the Shire.

7. Tell what you know of the composition of the Witenagemot and the number of its members. On what matters did it deliberate? In the opinion of Mr. Freeman, what assembly represents it now? Can you trace resemblances confirming that opinion?

8. Show that the general oath of allegiance sworn at Salisbury in 1086 was decidedly anti-feudal. What other precaution did the Conqueror take to avoid feudal development? Make a few notes on Palatine Earldoms.

9. How did the Conqueror glean information when compiling the Domesday Book? Tell what you know of the contents of the Domesday Book.

10. Sketch the policy of Ranulf Flambard. State fully why the administration of Bishop Roger of Salisbury is in the highest degree noteworthy.

11. What functions did the Sheriff discharge, (*a*) under Saxon rule, (*b*) under Norman? Did the same class of men always hold the office?

12. "The Norman Curia met the Anglo-Saxon gemot in the visitations of the itinerant justices."—*Stubbs*. Explain this statement fully.

13. Comment on *The Assize of Clarendon*, 1166, *The Assize of Northampton*, 1176, *The Assize at Arms*, 1181.

14. "In itself the charter [*Magna Carta*] was 'no novelty nor did it claim to establish any new constitutional principles."—*Green*. Justify this statement carefully.

HISTORY OF ENGLAND.

LONGMAN;—*The Life and Times of Edward III.*

MONDAY, APRIL 21ST:—AFTERNOON, 2.30 P.M. TO 5.30.

Examiners, ... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Sketch the career of Roger Mortimer during the early years of Edward III's reign.

2. "It has often been stated that Edward III. introduced the woollen manufacture into England but such is not the case." Reproduce the substance of Longman's remarks in support of his statement and mention measures taken by Edward to further trade in wool.

3. What part did James van Artevelde play in the history of his time with reference to English interests?

4. Describe the battle of Crécy and the siege of Calais in 1346-7.

5. Tell what you know concerning, (*a*) the Statute of Labourers, (*b*) the Statute of Treasons? How was the former Statute supplemented?

6. Why did the English interfere with the affairs of Spain during the reign of Edward III? Recount the military events that transpired in that country after the English interference.

7. Tell the story of the siege of Limoges by the Black Prince and briefly relate the steps that led to the loss of Aquitaine.

8. Show the constitutional importance of the "Good Parliament."

9. Why are John of Montfort and William of Wykeham worthy of note?

10. Relate the attempt to gain the Kingdom of Scotland made at the close of Edward's III., reign by Robert Bruce.

11. Sketch the life of John of Gaunt.

MILTON:—*L'Allegro; Il Penseroso; Arcades; Comus; Lycidas.*

TUESDAY, APRIL 22ND:—MORNING, 9 TO 1.

Examiners,..... { VEN. ARCH. LEACH, D.C.L.
CHAS. MOYSE, B.A.

1. *L'Allegro; Il Penseroso.* Justify the use of Italian titles. What precaution does Milton take when he introduces the words *Mirth* and *Melancholy?*

2. Show that *L'Allegro* and *Il Penseroso* are strictly parallel in structure, and that they represent two moods of the *same* mind.

3. Why do many Miltonic epithets seem strange to us now? Point out the aptness of,—*uncouth* cell, *decent* shoulders, *sad* virgin, *garish* eye, *nice* Morn, *spungy* air, *infamous* hills, *tinsel-slippered* feet, *felon* winds, *scrannel* pipes.

(*b*) Make a note or two on the words italicized: *Quips* and *cranks* and *wanton* wiles; And every shepherd *tells his tale;* The *Cynosure* of neighbouring eyes; whose bright *eyes Rain influence;* winding *bout;* All in a robe of *darkest grain.*

4. Explain these allusions:—

(*a*) Tells how the drudging goblin sweat
To earn his cream-bowl duly set;

(*b*) Jonson's learned sock.

(*c*) That starred Ethiop Queen.

(*d*) Thrice great Hermes.

(*e*) Presenting Thebes' or Pelops' line.

(*f*) Or call up him that left half told
The story of Cambuscan bold.

5. For what family was *Arcades* written, and in whose honour? Point out anything noteworthy in the construction of the poem, and say to what class of poetical writings *Arcades* should be referred.

6. "*Comus, A Masque.*" Mention the essentials of a Masque. Tell what you know of Masque, writing in England previous to Milton's *Comus*.

7. Give the meaning of the word Comus. By what Classical writers was Comus personified, and how? Milton, in the person of the Attendant Spirit, says :—

"I will tell you now
What never yet was heard in tale or song,
By old or modern bard."

Comment on this quotation by tracing resemblances worth noting between *Comus* and earlier writings.

8. Examine carefully the construction of *Comus*, noticing, especially, aptness of allusion. Who speak these words and when?

(*a*) Such sober certainty of waking bliss
I never heard till now.

(*b*) He that has light within his own clear breast
May sit i' the centre and enjoy bright day.

(*c*) How charming is divine Philosophy,
Not harsh and crabbed as dull fools suppose.

(*d*) For swinish gluttony
Ne'er looks to Heaven amidst this gorgeous feast.

Give the contexts if you can.

8. *Lycidas*. Point out the beauty of the title. Why was *Lycidas* written? Give an account of English pastoral poetry before the time of *Lycidas*, and show how foreign elements had modified the old Sicilian Muse.

10. Where in *Lycidas* does Milton make two digressions from the pastoral form? Show how skilfully they are introduced, and to what end.

(*b*) Explain these allusions, and say where each occurs:—

(*a*) And old Damœtas loved to hear our song.

(*b*) Nor yet where Deva spreads her wizard stream.

(*c*) The pilot of the Galilean lake.

(*d*) Sleepest by the fable of Bellerus old.

(*e*) Looks toward Namancos and Bayona's hold.

11. Examine in detail the following criticism on *Lycidas*, and show that it is eminently unjust:—

"One of the poems on which much praise has been bestowed is Lycidas; of which the diction is harsh, the rhymes uncertain and the numbers unpleasing. It is not to be considered as the effusion of real passion, for passion runs not after remote allusions and obscure opinions. In this poem there is no nature, for there is no truth: there is no art for there is nothing new."—*Johnson.*

12. Mention any facts in Milton's early life or statements in his early poems which throw light on the religious growth of his mind.

MARSH:—*Lectures on the English Language;* SPENSER:—*The Faërie Queene*, bks. i and ii.

THURSDAY, APRIL 24th:—MORNING, 9 to 12.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L.
CHAS. E. MOYSE, B.A.

1. Tell what you know concerning the modification of the Anglo-Saxon language by (*a*) the Celtic, (*b*) the Danish, (*c*) the Latin.

2. Give examples of changes in the meaning of words. Cite a few words which carry "morality" with them.

3. What differences exist between a modern weak verb and the same verb in Old English in regard to, (*a*) tense distinctions, (*b*) personal inflections.

4. Write some of Marsh's statements about the origin and the defects of English rime. What suggestion does he make for remedying these defects?

5. What distinctions does Marsh draw between the uses of *Yea* and *Yes*, *Nay* and *No*, *Idiom* and *Idiotism*, *Shall* and *Will?*

6. How is America affecting English speech?

7. Discuss the geueral plan of *The Faërie Queene.*

8. Relate the events that befall the following characters, and say what they express in the allegory? Una, Archimago, Duessa, Orgoglio, Sir Guyon, Braggadocchio, Maleger.

9. Describe the *Bower of Blisse*.

10. Show that Spenser was influenced by earlier writers. Cite some of his allusions to events of British History, and to British Heroes.

11. Notice archaic words in *The Faërie Queene*, and write a short essay on Spenser's stanza, language, and style.

THIRD AND FOURTH YEARS.

ANGLO-SAXON LANGUAGE AND LITERATURE.

SATURDAY, APRIL 26:—MORNING, 9 TO 12.

Examiners,..... { VEN. ARCHDEACON LEACH, D.C.L
CHAS. E. MOYSE, B.A.

1. Translate into modern English:

A. Sum hiredes ealdor wæs se plantode wingeard and betynde hine and sette thæron winwringan and getimbrode ænne stypel and gesette thone mid eordtilian and férde on eltheodignesse. Thá thæra wæstma tid genealæhte thá sende hé his theówas tó thæm eorthtilian thæt hie onfengon his wæstmas. Thá námon hie his theówas and swungon sumne, sumne hie ofslogon, sumne hie oftorfodon.

B. Thá he wæs feówer and twentig wintra eald tha forlét he ealle thas woruldglenga and eallne his hiht on Crist gesette; and thá æfter thon thæt hé férde tó mynstre the ys gecweden Hyrpadun and thær thá gerynelican sceare onfeng S. Petres thæs apostoles under Ælfthrythe abbodyssan; and syththan hé to sceare and tó thám munuclif feng, hwæt he nænigre wætan onbitan nolde the druncennes thurh come. And tha for thæm thingum hine tha bróthra hatedon, thy he swá forhæbbende wæs; and thá rathe syththan hie tha hluttorlicnesse his módes and thá clænnesse his lifes ongeáton thæt hie ealle hine lufedon. Wæs he on ansine mycel and on lichaman clæne, wynsum on his móde and wlitig on ânsyne; he wæs lithe and gemetfæst on his worde and he was gethyldig and eádmód; and á seó godcunde lufu on his heortan hát and byrnende.

C. And thær is mid Estum théaw, thonne thær bith man deád, thæt he lith inne unforbærned mid his magum and freondum mónath, ge hwilum twegen; and thá cyningas, and tha othre heáhthungene men, swá micle leng swá hie máran spéda habbath, hwilum healf geár thæt hie béoth unforbærned, and licgath búfan eorthan on hyra húsum. And ealle thá hwile the thæt ic bith inne, thær sceal beón gedrinc and plega, óth thone dæg the hie hine

forbærnath. Thonne thy ylcan dæge hie hine tó thæm áde béran willath, thonne to dælath hic his feoh, thæt thær tó láfé bith æfter thæm gedrince, and thæm plegan, on fif oththe six, hwilum on má, swá swá thæs feós andefen bith. Alecgath hit thonne forhwega on ánre mile thonne mæstan dæl fram thæm túne, thonne ótherne, thonne thone thriddan, oth the hit eall áléd bith on thære ánre mile; and sceal beón se læsta dæl néhst thæm túne, the se deáda man on lith.

D.

Hæfdon gielp micel,
Thæt hie with Drihtne
Dælan meahton
Wuldorfæsten wic,
Werodes thrym,
Sid and swegeltorht.
Him thær sár gelamp
Æfst and oferhygd
And thæs engles mod
The, thone unræd ongan
Ærest fremman
Wefan and weccean
Tha he word cwæth
Nithes ofthyrsted
That he on northdæle
Ham and héah setl
Heofena rices
Agan wolde.

(*a*). *Questions relating to Extract A*:—Parse *wæs* and examine the tense-sources of our verb *be*; decline *se*, and note common words derived from it; *win* and *wín*, what difference? *ge*-timbrode, what is noteworthy about *ge? ferde*, cite a few modern derivations; *eltheodignesse*, resolve into elements; sum*ne*, comment on the *ne*?

(*b*). *To Extract B*:—*The*, what is *the? gerynelican*, derive; *nænigre wætan*, what case and why? *nolde*, resolve; *rathe*, can you quote this word from Milton? byrn*ende*, discuss the inflection.

(*c*). *To Extract C*:—*Monath*, what case and why? *cyningas*, cite popular but false etymologies; *sceal*, primitive meaning?, decline *feoh* and give real meaning; *tun* and *burh*, contrast.

(*d*). *To Extract D*:—Explain fully Anglo-Saxon consonant and vowel alliteration; *ac* and *ác*, difference? *sib*lufan, show aptness; *drihtne*, cite a few Anglo-Saxon words of kindred meaning, and point ont the signification of each.

2. Decline any four regular nouns, of different declensions, in the preceding extracts, and show how time has weakened er dostroyed their inflections.

3. How would you classify Anglo-Saxon verbs? Write out the tenses of *luf*,—love.

4. Notice salient points of Anglo-Saxon syntax.

5. Relate the chief incidents of the poem *Beowulf*. State the two theories concerning the localities described in the poem.

6. Mr. Green, speaking of the great Synod at Whitby A.D. says: 664, "Had the Church of Aidan finally won the later ecclesiastical history of England would probably have resembled that of Ireland." Sketch the rise and progress of the Church of Aidan in Britain, previous to the Synod and mention the more important points contested at Whitby.

7. What you know of the history and the contents of the *Exeter* and *Vercelli* books?

8. Make a few remarks on each of the following:—*The Fight at Finnesburg, The Grave, The Anglo-Saxon Chronicle.*

9. Tell something of the story of Bede's life and writings.

10. How did Anglo-Saxon learning influence the Courts of Europe?

LOGIC AND MENTAL AND MORAL PHILOSOPHY.

INTERMEDIATE EXAMINATION, 1879.

LOGIC.

THURSDAY, 17TH APRIL:—MORNING, 9 to 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Distinguish the Categorematic and the Syncategorematic words in the proposition:—"The evil that men do lives after them."

2. Among the following terms select those that are General, Abstract, Connotative, Negative, or Relative:—Emperor, Napoleon, Majesty, Homely, Homeliness, Void, Imbecile, Predicate, Prime Minister, Brilliance, The most learned philosopher of antiquity, Aristotle.

3. Define the parts of which every Proposition is composed.

4. Distinguish these parts in the following Propositions:—

(*a*) "No man is free who cannot control himself."

(*b*) "He jests at scars who never felt a wound."

5. What is meant by the quantity, what by the quality, of a Proposition?

6. Give the sign for the quantity and quality of the following Propositions:

(*a*) Not one of the Greeks at Thermopylæ escaped;

(*b*) Uneasy lies the head that wears a crown;

(*c*) Some of the muscles are not striped;

(*d*) Some of the muscles act without volition.

7. Convert each of the Propositions given under the previous question.

8. Name and state the several Opposites of each of the Propositions given under question 6.

9. What inferences may logically be drawn (*a*) from one Contrary to another, (*b*) from one Contradictory to another?

10. Distinguish the Terms and the Propositions of the following syllogism:—"Platinum combines with oxygen; for all metals combine with oxygen, and platinum is a metal."

11. Why must there always be one distributed term more in the premisses than in the conclusion of a syllogism?

12. Name the Mood and the Figure of each of the following syllogisms, and reduce each to the first Figure:—

(*a*) "The lion is not a ruminant animal, for it is predacious, and ruminant animals are not predacious.

(*b*) "The muscles of the heart are involuntary; and, therefore, some involuntary muscles are striped, because the muscles of the heart are striped."

13. Analyse the following Sorites into the syllogisms of which it is composed:—"The extinct animal that left this footprint had cloven hoofs; animals with cloven hoofs are horned; horned animals are ruminant; and ruminant animals are not beasts of prey: therefore, the extinct animal that left this footprint was not a beast of prey."

14. Explain the nature of each of the following fallacies:—

(*a*) The conclusion must be true, if the premisses are true, but these are not true, and therefore the conclusion is also untrue.

(*b*) Mathematical studies invigorate the mind; but classical studies are not mathematical, and therefore they do not invigorate the mind.

(*c*) The authenticity of this document is proved by the facts it records, and the facts are proved by the authenticity of the document.

(*d*) A designing person is unworthy of trust. Now, this man has formed a design of building, and therefore he is unworthy of trust.

THIRD YEAR.

MORAL PHILOSOPHY.

FRIDAY, APRIL 4TH:—AFTERNOON, 2 TO 5.

Examiner,.....J. CLARK MURRAY, LL.D.

I. LECTURES.

1. (*a*) Explain the etymology and literal meaning of the word Duty. (*b*) Describe the main lines which speculation has taken in seeking to determine what constitutes Duty.

2. Distinguish (*a*) Hedonism and Eudemonism, (*b*) Egoistic Hedonism and Utilitarianism.

3. (*a*) Explain what is necessary to calculate Quantities, and (*b*) discuss the possibility of applying the category of Quantity to pleasures.

4. State the moral theories of Clarke and of Wollaston.

5. Show that there is a progress towards Universality of Law in the development of the Moral Consciousness.

6. (*a*) Distinguish Law and Morality. (*b*) Explain some of the expedients which practical legislation has devised for obviating the injustices that may arise from a rigid application of Law.

7. (*a*) State Adam Smith's four rules of Taxation. (*b*) Show that they are all reducible to one principle of justice. (*c*) Discuss the comparative justice of Direct and Indirect Taxation.

8. (*a*) What is meant by a Rational Askesis? (*b*) Distinguish it from Asceticism, and (*c*) explain its function in moral culture.

II. STEWART'S OUTLINES.

1. (*a*) Classify the Active Powers. (*b*) In which of these is man's nature analogous to that of the brutes, in which is it different?

2. Describe the Desire of Power in its principal manifestations.

3. (*a*) By whom were our Moral Ideas referred to a Sense, by whom to the Reason? (*b*) Explain how the two theories may be reconciled.

4. (*a*) State Clarke's argument for the Existence of Deity. (*b*) Why is it called *a priori*? (*c*) What is the *a posteriori* argument? (*d*) State its two (major) premises.

5. Point out some of the beneficent purposes which Physical Evils subserve.

6. Wherein do all theories of the Sovereign Good agree?

7. Mention some mental qualities which are not moral in themselves and are yet necessary to happiness.

8. On what occasions is Reason necessary for the regulation of conduct?

B. A. ORDINARY EXAMINATION.

MENTAL AND MORAL PHILOSOPHY.

TUESDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiner,..... .....J. CLARK MURRAY, LL.D.

MURRAY'S OUTLINE OF HAMILTON'S PHILOSOPHY.

1. Explain the term Philosophy, (*a*) in its etymology, (*b*) in its more extensive signification, (*c*) in its stricter meaning.

2. Explain the truth involved in the saying of Protagoras, that "man is the measure of all things."

3. By what process alone can the veracity of consciousness be impugned?

4. Distinguish the different classes of mental phenomena, and illustrate the distinction by an example of each.

5. Illustrate the law, that Perception and Sensation, though always co-existent, are always in the inverse ratio of each other.

6. (*a*) Explain the nature of the Secundo-primary Qualities of Body. (*b*) Classify them from a physical point of view.

7. (*a*) What is the only object of Perception? (*b*) How do we come to know objects external to the organism?

8. State the Primary Laws of Reproduction.

9. What evidence is there to show that Imagination has organs, as well as Sense?

10. (*a*) Distinguish Collective and General Notions. (*b*) Explain the process of Generalization.

11. Explain Hamilton's theory of the *Primum Cognitum*.

12. Explain the criteria of *a priori* Cognitions.

13. (*a*) Distinguish the Infinite and the Absolute. (*b*) Illustrate this distinction in reference to Space.

14. State Hamilton's theory of Causality.

B. A. ORDINARY EXAMINATION.

MENTAL AND MORAL PHILOSOPHY.

WEDNESDAY, APRIL 2ND :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

STEWART'S OUTLINES OF MORAL PHILOSOPHY.

1. Mention (*a*) some Acquired Appetites, (*b*) some propensities analogous to the Appetites.

2. Distinguish the Desire of Superiority from the Malevolent Affection with which it is often accompanied.

3. Point out an accompaniment of the Benevolent Affections, showing (*a*) that it imparts a charm to tragedy, (*b*) that it may sometimes mislead the thoughtless, (*c*) that it may even predominate over disappointment.

4. Explain the statement, that Selfishness refers, not to the *motive*, but to the *effect*, of an action.

5. (*a*) Explain the theory of a Moral Sense. (*b*) In what respect was it unfortunate in the illustrations used to explain it?

6. (*a*) What are the sources of the agreeable feelings which come to be associated with virtue? (*b*) What aspect of virtue is thus constituted? (*c*) What was a leading object of the ancient moralists in connection with this aspect of virtue?

7. (*a*) Distinguish the two modes of reasoning employed to prove the Existence of the Deity. (*b*) State the general drift of each argument.

8. State the various theories on the Origin of Evil.

9. (*a*) Distinguish Moral and Physical Evils. (*b*) To what is the question regarding the permission of Moral Evil reduced? (*c*) Reply to this question.

10. (*a*) Define Justice in its most extensive signification. (*b*) Distinguish its two forms. (*c*) To which is the term more strictly applied?

11. (*a*) Who maintained Justice to be an *artificial*, not a *natural*, virtue? (*b*) Explain the meaning of the doctrine, and the principal argument in its support. (*c*) State objections to the argument.

12. Explain (*a*) why Self-love, or Prudence, is an object neither of moral approbation nor of blame, (*b*) why Imprudence on our own part awakens the moral feeling of remorse, (*c*) why Imprudence on the part of others does not excite so much indignation as Injustice does.

13. Explain the definition of Virtue ascribed to the ancient Pythagoreans in connection with the doctrine of Aristotle.

14. Distinguish Absolute and Relative Rectitude.

B. A. THIRD YEAR EXAMINATION FOR HONOURS IN MENTAL AND MORAL PHILOSOPHY.

PLATO'S REPUBLIC.

TUESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL D.

1. Describe (*a*) the scene, (*b*) the occasion, of the Dialogue.

2. (*a*) State the theory of Justice, maintained by Thrasymachus in the First Book, and afterwards explained by Glaucon and Adeimantus in the Second Book. (*b*) What Great English philosopher of the seventeenth century held a theory in many respects similar?

3. Explain (*a*) the division of the different classes who compose the State, (*b*) the corresponding classification of virtues in the individual.

4. What is the correspondence between Justice in the individual and Justice in the State?

5. Wherein does Plato anticipate modern views on the Education of Women?

6. Sketch his discussion of the objections to Women engaging in the same pursuits with Men.

7. (*a*) What are the only means by which Plato expects his Ideal State to be realized? (*b*) Why does he anticipate that his doctrine on this subject will meet with general ridicule?

8. Interpret the Allegory of the Cave at the opening of the Seventh Book.

9. Describe the degenerate forms of Government which Plato contrasts with his Ideal State.

10. Describe the process by which the perfect Government degenerates into those corrupt forms successively, pointing out the order of degeneracy.

11. (*a*) To what corrupt form of Government does Plato compare the Unjust Man? (*b*) How does this comparison assist in deciding the question with which the Republic opens?

12. State the final objections which Plato urges against admitting Poetry into his Ideal State.

HISTORY OF MODERN PHILOSOPHY.

THURSDAY, APRIL 10TH—MORNING, 9 TO 12.

Examiner,..... .....J. CLARK MURRAY, LL.D.

1. Give the general date of the Transition Period between Mediæval and Modern Philosophy.

2. Describe the chief features of the Revolution (*a*) in Literature, (*b*) in Philosophy, (*c*) in Religion, which characterised this period.

3. Distinguish the epochs into which the History of Modern Philosophy was divided in the Lectures.

4. (*a*) Explain the tendency of Scepticism towards Absolutism in Church or State, and (*b*) mention any modern thinkers who represent this tendency.

5. Explain how Condillac and Bonnet respectively reconciled their Sensationalism with their Religious Belief.

6. (*a*) Distinguish the Doubt, enjoined by Descartes, from Speculative and from Practical Scepticism respectively. (*b*) Explain the limit at which Descartes maintained that Doubt necessarily ceases.

7. (*a*) Explain the position which the argument for the Existence of the Deity holds in the development of Descartes' system. (*b*) State the argument. (*c*) Sketch Kant's critique of the argument.

8. How was the Dualism of Descartes' system reconciled, (*a*) by Malebranche, (*b*) by Geulincx, (*c*) by Spinoza?

9. Describe the various tendencies towards catholicity in the intellectual labours of Leibnitz.

10. Explain the Pre-established Harmony of Leibnitz in connection with his Monadology.

11. Explain the logical issue of Empiricism in Hume's doctrines of Substance and of Cause.

12. State the general drift of Kant's three Critiques.

13. (*a*) Describe the two main features of Hartley's Psychology. (*b*) Which is of chief philosophical importance ?

14. Explain and criticise the new departure which Empiricism has taken in the system of Herbert Spencer.

KANT'S CRITIQUE OF THE PURE REASON.

WEDNESDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Define Cognitions (*a*) *a priori*, (*b*) *a posteriori*, (*c*) absolutely or wholly *a priori*. (*d*) Explain the criteria of the last.

2. Distinguish (*a*) the two sources of human knowledge, (*b*) the two corresponding parts of the Transcendental Doctrine of Elements.

3. Sketch the general results of the Transcendental Aesthetic.

4. Explain the statement, that the Transcendental Analytic of Concepts is an analysis, not of the contents of given Concepts, but of the Faculty of Understanding itself.

5. Distinguish Affection and Function.

6. Describe the fundamental Function of the Understanding, and explain how it furnishes the clue to the discovery of the Categories, giving the complete table of these.

7. Explain the procedure by which the Pure Concepts of the Understanding are applied to phenomena of sensible experience.

8. (*a*) Name and state the first of the Principles of the pure Understanding. (*b*) Explain its connection with the Category to which it corresponds.

9. Distinguish a Transcendental Illusion from an Empirical, and from a Logical, Illusion.

10. Explain the function of Reason (*a*) in its general, (*b*) in its logical (*c*) in its pure, use.

11. Name and describe the several Dialectical Inferences of the Pure Reason.

12. Sketch Kant's Critique of the first of these Inferences.

13. Distinguish the various Arguments for the Existence of the Ideal of the Pure Reason.

14. What is meant by the *regulative* use of the Ideas of the Pure Reason?

KANT'S THEORY OF ETHICS.

THURSDAY, APRIL 17TH :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. What is necessary to make an action moral, when it accords with duty, and the agent has a natural inclination to it?

2. Explain the difference between a Will which is, and one which is not wholly determined by reason.

3. Distinguish Imperatives (*a*) Technical, (*b*) Pragmatic, and (*c*) Moral.

4. (*a*) Show that the mere fact of a Categorical Imperative implies its formula. (*b*) What is that formula? (*c*) Illustrate the formula by som examples of duties.

5. Translate the formula with reference to the principle, that a rational nature is an end in itself.

6. Explain Kant's view of Moral Feeling in contrast with the theory which bases the Moral Law on a Moral Sense.

7. State the Antinomy of the Practical Reason.

8. Sketch Kant's solution of the Antinomy.

9. What is the Method advocated in the Methodology of the Pure Practical Reason?

10. Describe, in its different degrees, the Propensity to evil in human nature, showing that the Propensity must be placed neither in the sensibility nor in the Reason, but in the relative rank assigned to these in our maxims.

11. What is implied in, what is required for, the restoration of the Original Capacity for good in human nature?

12. Wherein is virtue to be acquired (*a*) by *gradual reform*, (*b*) by a *revolution* or *new creation*?

B. A. AND THIRD YEAR.

THOMSON'S OUTLINE OF THE LAWS OF THOUGHT.

TUESDAY, APRIL 22ND :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Distinguish Intuitions and Conceptions, illustrating the distinction by an example of each.

2. Explain the nature of Division, Definition and Denomination, in connection with the three powers of Conceptions, to which they respectively correspond.

3. State the Rules of Definition.

4. Explain what Rule is violated in each of the following Definitions :—
(*a*) Words are the signs of thoughts.
(*b*) Words are the signs by which an orator expresses his thoughts.
(*c*) Life is the sum of the vital functions.

5. Distinguish (*a*) Positive and Privative, (*b*) Univocal, Equivocal, and Analogous Nouns, illustrating the distinction in each case by an example.

6. Explain the two classes to which Thomson reduces Predicables, comparing his reduction with the common doctrine of the Logicians.

7. Compare Thomson's Table of Judgments with that of the old logicians, on the one hand, and with that of Sir W. Hamilton, on the other.

8. Interpret the following Judgments according to Extension, Intension and Denomination :—
(*a*) All metals combine with oxygen.
(*b*) Some valuable books are seldom read.

9. (*a*) What does Thomson hold to be the only Contradictories? (*b*) Explain the reason of his doctrine.

10. Explain the nature of the Opposites which Thomson adds to the old Square of Opposition.

11. Mention the forms of Immediate Inference which Thomson recognises in addition to Conversion and Opposition.

12. Explain (*a*) the distinction of Figures, (*b*) the nature of the Unfigured Syllogism.

13. Explain (*a*) why one of the Figures is most natural, while (*b*) the other three are still, with one exception, not mere arbitrary inventions.

14. What causes the difference between Thomson's (or Hamilton's) Table of Modes and the common Table?

15. How many Modes does Hamilton assign to each figure?

MILL'S LOGIC.

THURSDAY, APRIL 24TH :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Explain Mill's doctrine as to the Province of Logic.

2. (*a*) Explain Mill's doctrine as to the Signification of Names, and (*b*) connect it with his theory of the Import of Propositions.

3. Distinguish (*a*) Essential and Accidental Propositions, (*b*) two modes of representing the import of the latter.

4. What is Mill's view (*a*) regarding the *Dictum de Omni et Nullo*, (*b*) regarding the real fundamental Axiom of Ratiocination?

5. (*a*) Why are some sciences deductive, while others remain experimental? (*b*) Show that the latter may become deductive, and (*c*) explain the manner in which this usually takes place.

6. Which of thePrinciples of Geometry are admitted to be necessary, and in what sense; which are maintained to be experimental?

7. State (*a*) Whewell's theory of Induction, (*b*) the criticism of it by Mill.

8. State the Experimental Methods.

9. (*a*) Show that the Methods of Simple Observation and of Experiment are inapplicable to investigations into the Laws of Complex Effects. (*b*) Explain the Method which is alone applicable to these.

10. How far does the hypothesis of a luminiferous ether come within the definition of a legitimate hypothesis?

11. Explain (*a*) the ground of our present certainty with regard to the Law of Universal Causation, (*b*) the limits of the reliance due to it.

12. What are the requisites of a Philosophical Language?

13. By what means alone can the backward state of the Moral Sciences be remedied?

14. (*a*) Define Ethology. (*b*) Show that its laws cannot be ascertained by Observation or Experiment. (*c*) How must they be studied?

15. Write a brief critique of Empiricism, as represented by Mill.

B. A. AND THIRD YEAR

HISTORY OF GREEK PHILOSOPHY.

FRIDAY, APRIL 25TH:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL. D

1. (*a*) Among which of the Greek tribes did speculation originate? (*b*) Sketch the general drift of their speculation, illustrating by the doctrines of particular philosophers.

2. In what respects did Anaximenes draw from, in what did he advance upon, the doctrines of Anaximander?

3. (*a*) By whom was Number held to be the essential principle of all things? (*b*) What are the two species of Number, which they regarded as typifying antitheses that run through Nature? (*c*) Specify some of these antitheses. (*d*) What is the principle of harmony, by which these antitheses are reconciled? (*e*) Explain the mystical significance attached to the numbers Ten and Four.

4. (*a*) What was the origin of the Eleatic School? (*b*) Who were its chief representatives? (*c*) What was its fundamental doctrine? (*d*) Who was the polemic of the School? (*e*) Explain the general drift of his arguments.

5. Explain the Empedoclean doctrine of an Original Sphere in connection with his theory of world-cycles.

6. Sketch the relation of the Sophists (*a*) to previous philosophy, (*b*) to the general life of their time. (*c*) State what you know of Protagoras, Gorgias and Prodicus.

7. Explain (*a*) the relation of Socrates and Aristophanes, (*b*) the general causes of the hostile feeling which led to the death of Socrates.

8. (*a*) State the general drift of the Cyrenaic Ethics. (*b*) By whom, and by what logical process, was it developed into Pessimism?

9. (*a*) Distinguish the Zetetic and Didactic Dialogues of Plato. (*b*) Explain the logical connection of the former with the later development of his school.

10. Explain (*a*) Plato's theory of Ideas, (*b*) his Idea of the Good, (*c*) his classification of the Virtues, (*d*) his division of classes in the State.

11. Sketch the Life of Aristotle.

12. Explain Aristotle's doctrines (*a*) of Categories, (*b*) of Causes, (*c*) of the Soul.

13. Sketch the prominent points in the Stoical Logic and Physics.

14. In what respects do the Epicurean Canonic and Physics coincide with the tendencies of modern Hedonism?

FRENCH, GERMAN AND HEBREW.

FIRST YEAR.

FRENCH.

WEDNESDAY, APRIL 9TH :—MORNING, 9 TO 12.

Examiner,..... .....P. J. DAREY, M.A., B.C.L.

1. Translate into English :—

Cléante.—Ce monsieur le comte (*a*) qui *va* chez elle lui donne peut-être dans la vue ;et son esprit (*b*), je le *vois* bien, se laisse éblouir par la qualité. Mais il me *faut*, pour mon honneur, prévenir (*c*) l'éclat de son inconstance. Je *veux* faire autant de pas qu'elle au changement où je la vois courir, er ne lui laisser pas toute la gloire de me quitter.

Covielle.—C'est fort bien dit, et j'entre pour mon compte dans tous vos sentiments.

Cléante.—Donne la main à mon dépit, et soutiens ma résolution contre tous les restes d'amour qui me *pourraient* parler pour elle. Dis-m'en, je t'en conjure, tout le mal que tu pourras. Fais-moi de sa personne une peinture qui me la rende méprisable ; et marque-moi bien, pour m'en dégoûter, tous les défauts que tu peux voir en elle.

(*a*) Write two homonyms of *comte* with their meanings.

(*b*). What are the different meanings of that word *esprit?* What do you call *jeux d'esprit?*

(*c*). What other construction could you use besides *il me faut prévenir?* Give the rule for both constructions.

2. Write in full the *Preterite definite* and *Subjunctive present* of the five verbs italicizled in the above act. Write also the negative, interrogative, negative and interrogative of *vois* in the future.

3. Translate into English the following verbs : *il comparait, il comparaît ; il crut, il crût ; il repartit, il répartit.* Write the imperatives of all those verbs. *And also :* il paraît que vous avez raison. Mais ce qui parait cette beauté d'un charme souverain c'était le regard.

4. Translate and write in the plural: *Rainbow, silk-worm, snowdrop, tomahawk, a bat, a poultry-yard, scout,* and give the rules according which you have to write them.

5. State the rules to write nouns taken from foreign tongues. Give three examples.

6. To what parts of speech does *leur* belong? When does it take an *s* to form its plural, and when is *leur* already a plural? What is its singular in the latter case? Illustrate your answer by examples.

7. Give six nouns which have the two genders and their respective meanings in either gender.

8. Translate into French:—

I have the honour to acknowledge the receipt of your letter of the 15th instant, containing a draft on New York payable at sight. Allow me to tell you that Mr. M. promises enough, but he seldom keeps his word. Is my knife ground? Many diseases spring from intemperance. The great nightshade originally came from Mexico. A great man is not always a tall man, nor a little man a mean man. The highest of the pyramids of Egypt is at least five hundred feet high. Of ten thousand combatants there were one thousand killed and five hundred wounded. About twelve o'clock. She has blue eyes. We must always pity the unfortunate. The service that I have rendered him seems to have brought me good luck. He was in great dejection of mind; but the news which he has just received has revived him. He did not long survive a person who was so dear to him. Let us live as good christians.

SECOND YEAR.

FRENCH.

WEDNESDAY, APRIL 9TH:—MORNING, 9 TO 12.

Examiners,..... { P. J. DAREY, M.A., B.C.L. / PROF. M. MILLER.

1. Translate into French:—

Few parents act in such a manner as to enforce their maxims by the credit of their lives. The old man trusts wholly to slow contrivance and gradual progressions, the youth expects to force his way by genius, vigour and precipitance. The old man pays regard to riches, and the youth reverences virtue. The old man deifies prudence, the youth commits himself to magnanimity and chance. The young man, who intends no ill believes that none is intended, and therefore acts with openness and candour; but his father, having suffered the injuries of fraud, is impelled to suspect, and too often allured to practice it. Age looks with anger on the temerity of youth, and youth with contempt on the scrupulosity of age. Thus parents and children, for the greatest part, live on to love less and

less: and, if those whom nature has thus closely united are the torments of each other, where shall we look for tenderness and consolation?

JOHNSON'S, *Rasselas.*

2. Translate into English:—

Anselme.—Quoi! vous osez vous dire fils de Don Thomas d'Alburci?

Valère.—Oui je l'ose: et je suis prêt de soutenir cette vérité contre qui que ce soit.

Anselme.—L'audace est merveilleuse! Apprenez, (*a*) pour vous confondre, qu'il y a seize ans, pour le moins, que l'homme dont vous nous parlez périt sur mer avec ses enfants et sa femme, en voulant dérober leur vie aux cruelles persécutions qui ont accompagné les désordres de Naples, et qui en firent exiler plusieurs nobles familles.

Valère.—Oui; mais apprenez, pour vous confondre, vous, que son fils, âgé de sept ans, avec un domestique, fut sauvé de ce naufrage par un vaisseau espagnol, et que ce fils sauvé est celui qui vous parle. Apprenez que le capitaine de ce vaisseau, touché de ma fortune, prit amitié pour moi; qu'il me fit élever comme son propre fils, et que les armes furent mon emploi dès que je m'en trouvai capable.....

MOLIÈRE, *L'Avare*, A. v., s. 5.

3. *Maître à danser.*—Tous les malheurs des hommes, tous les revers funestes dont les histoires sont remplies, les bévues des politiques, et les manquements des grands capitaines, tout cela n'est venu que faute de savoir danser.—Comment cela?—La guerre ne vient-elle pas d'un manque d'union entre les hommes?—Cela est vrai!—Et si les hommes apprenaient la musique, ne serait-ce pas le moyen de s'accorder ensemble et de voir dans le monde la paix universelle?—Vous avez raison.

MOLIÈRE, *Le Bourgeois gentilhomme.*

4. *Britannicus.*—Et pourquoi voulez-vous que mon cœur s'en défie?

Junie.—Et que sais-je? Il y va, seigneur de votre vie:
Tout m'est suspect: je crains que tout ne (*b*) soit séduit,
Je crains Néron; je crains le malheur qui me suit.
D'un noir pressentiment malgré moi prévenue,
Je vous laisse à regret éloigner de ma vue.
Hélas! si cette paix dont vous vous repaissez
Couvrait contre vos jours quelques pièges dressés;
Si Néron, irrité de notre intelligence, (*c*)
Avait choisi la nuit pour cacher sa vengeance;
S'il préparait ses coups tandis que je vous vois;
Et si je vous parlais pour la dernière fois!
Ah! prince.

RACINE, *Britannicus*, A. 5, s. 3.

5. (*a*) When do you put two *n's* in the verb *apprenez?* (*b*) Explain that *ne* in the above extract. (*c*) What is the usual meaning of *intelligence?* What does it mean here?

6. Translate in two ways:—*I must go away*, and write the Pres. Ind. of each of them.

7. Give the rules for: La physionomie est *tout* honnête et *toute* pleine d'esprit.—Plus *que* moi, and plus *d'*une fois.

8. State difference between: Je m'en vais faire un petit tour *en ville*, and *à la ville;* between *le* mémoire, and *la* mémoire, *le* tour, and *la* tour; je suis fâché *de* cette nouvelle, and je suis fâché *contre* vous; il *a été* l'année dernière à Paris, and il *est allé* à Paris.

9. Write correctly the following sentences, and explain in what consist the mistakes:

Il a davantage de brillant que de solide.

Les livres rares se vendent chers.

Il est rare qu'un homme en place soit accessible et chéri de tout le monde.

Il y a plaisir à être dans un vaisseau battu par l'orage lorsqu'on est assuré qu'il ne périsse pas. Ne serait-il pas doux de retrouver dans l'effet de nos soins les plaisirs qu'ils nous ont coûté?

10. What events brought about the Renaissance littéraire in the 16th century? Show how each of them contributed to it. Trace its course. When and how did it manifest itself in France? Name the principal men in France who by their efforts and works were instrumental in bringing about the Renaissance littéraire.

11. Delineate the character of Harpagon, and point out the principal instances in which he appears in his character. How does Harpagon's way of acting affect the morals of his children? What may be said in Molière's defense against those who find fault with this piece in a moral point of view?

12. Who was the great writer of tragedies before Racine? How much older was he than Racine? What characterized respectively those two great writers? Give six of the most beautiful characters of Racine's theatre.

THIRD YEAR.

FRENCH.

WEDNESDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., B.C.L.

1. Translate into English:

Ose te regarder toi-même, ô mon âme, et cherche combien de fois tu as failli. D'abord tu as failli par orgueil! Car je n'ai pas recherché les

simples. Trop abreuvé des vins enivrants du génie je n'ai plus trouvé de saveur à l'eau courante. J'ai dédaigné les paroles qui n'avaient d'autre grâce que leur sincérité ; j'ai cessé d'aimer les hommes, seulement parce que c'étaient des hommes, je les ai aimés pour leur supériorité ; j'ai resserré le monde dans les étroites limites d'un panthéon, et ma sympathie n'a pu être éveillée que par l'admiration. Cette foule vulgaire que j'aurais dû suivre d'un œil ami, puisqu'elle est composée de frères en espérances et en douleurs, je l'ai laissée passer avec indifférence comme un troupeau. Je m'indigne de voir celui qu'enivre son or mépriser l'homme pauvre des biens terrestres, et moi, vain de ma science futile, je méprise le pauvre d'esprit. J'insulte à l'indigence de la pensée comme d'autres à celle de l'habit ; je m'enorgueillis d'un don et je me fais une arme offensive d'un bonheur !

E. Souvestre, *Un Philosophe sous les toits*.

2. What is known in French Literature by *Encyclopédistes ?* Name six of them. Who were the principal ? What did they want to do ? Give a brief sketch of the life of the first one.

3. Write a synopsis of the life of Montesquieu. What are his principal works ?

4. Answer to the same question for Voltaire. Enumerate all the different kinds of writings in which Voltaire excelled.

5. Whose daughter was Mme de Staël ? Where was she born ? Where did she live part of her life ? What great man in France took a great dislike to her ? Where was she banished ? Where and when did she die ? When did she commence to write ? What are her principal works ? Name another woman famous by her writings in this century.

6. Translate into French :

I now began to find that all my long and painful lectures upon temperance, simplicity and contentment were entirely disregarded. The distinctions lately paid us by our betters, awakened that pride which I had laid asleep but not removed Our windows again, as formerly, were filled with washes for the neck and face. The sun was dreaded as an enemy to the skin without doors, and the fire as a spoiler of the complexion within. My wife observed that rising too early would hurt her daughters' eyes, that working after dinner would redden their noses, and she convinced me that the hands never looked so white as when they did nothing. Instead, therefore, of finishing George's shirts, we now had them new-modelling their old gauzes or flourishing upon catgut. The poor Miss Flamboroughs, their former gay companions, were cast off as mean acquaintances, and the whole conversation now fell upon high-life and high-lived company, with pictures, taste, Shakspere, and the musical glasses.

Goldsmith, *The Vicar of Wakefield*.

JUNIOR CLASS.

GERMAN.

THURSDAY, APRIL 10TH:—MORNING, 9 TO 12.

Examiner,..... .....C. F. A. MARKGRAF, M.A.

1. Translate into English:—

(A) Kennst du das Haus? Auf Säulen ruht sein Dach,
Es glänzt der Saal, es schimmert das Gemach,
Und Marmorbilder stehn und sehn mich an;
Was hat man dir, du armes Kind, gethan?
Kennst du es wohl?
Dahin! Dahin!
Möcht' ich mit dir, o mein Beschützer, ziehn.

Kennst du den Berg und seinen Wolkensteg?
Das Maulthier sucht im Nebel seinen Weg;
In Höhlen wohnt der Drachen alte Brut:
Es stürzt der Fels und über ihn die Fluth.
Kennst du es wohl?
Dahin! Dahin!
Geht unser Weg! o Vater, laß uns ziehn!

Goethe.

(B) ....Wie er so dahin ging und immer ein Bein vor das andere setzte kam ihm ein Reiter in die Augen, der frisch und fröhlich auf einem muntern Pferde vorbei trabte. „Ach," sprach Hans ganz laut, „was das Reiten ein schönes Ding ist! Da sitzt Einer wie auf einem Stuhle, stößt sich an keinen Stein, spart die Schuhe und kommt fort, er weiß nicht wie." Der Reiter der das gehört hatte, rief ihm zu: „Ei, Hans, warum laufst du auch zu Fuß?" — „Ach," da muß ich den Klumpen heimtragen; es ist zwar Gold, aber ich kann den Kopf dabei nicht gerad' halten, auch drückt mir's auf die Schulter." — „Weißt du was," sagte der Reiter und hielt an, „wir wollen tauschen, ich gebe dir mein Pferd und du gibst mir deinen Klumpen." — „Von Herzen gern," sprach Hans, "aber ich sage euch, ihr müßt euch damit schleppen." Der Reiter stieg ab, nahm das Gold und half dem Hans hinauf, gab ihm die Zügel fest in die Hände und sprach: „Wenn's nun recht geschwind soll gehen, so mußt du mit der Zunge schnalzen und hopp, hopp! rufen."

Gebrüder Grimm.

2. (*a*) Parse the following verbs, contained in Extracts (A) and (B), and give their Present Infinitives:—kennst, hat gethan, möchte, ging, setzte, kam, sprach, weiß, gehört hatte, rief zu, laufst, kann, weißt, gibst, müßt, nahm, half, gab, mußt. (*b*) Write down the irregular forms of stehn sehn, ziehn, heimtragen, halten, rufen.

3. Give the gender, meaning and Nominative Plural of:—Bauer, Welt, Bad, Pallaſt, Gräfin, Reichthum, Hirt, Wunder, Bote, Feſt, Meer, Wiſſenſchaft, Spanier, Wieſe, Dorf, Vorhang, Macht, Diſtel;—and the Nominative and Genitive Singular of:—Augenärzte, Mauern, Hügel, Enden, Thoren, Eiſenbahnen, Herren, Häupter, Edelleute, Pflichten, Körbchen, Boote, Örter, Geſpräche, Thore.

4. Decline in both numbers:—der Menſch welcher; dieſelbe Frau die (who); welche reife Frucht; ſchwarzes Tuch.

5. (*a*) State the rules relating to *reflective* verbs. (*b*) When are the pronouns *myself*, *thyself*, *himself*, &c., expressed by mich, dich, ſich &c.; when by mich ſelbſt, dich ſelbſt, ſich ſelbſt, &c.;—and when by ſelbſt only?—Explain, and give short examples.

6. Give the 2nd Sing. and the 1st Plural of all Tenses of the Indicative of ſuchen and bitten;—and the Present and Imperfect Indicative (all persons) of zurückbringen and vergeſſen.

7. (*a*) How is the Superlative of adverbs formed in German? (*b*) Can you give instances where the *adverbial* Superlative may be used in the place of *adjectives*?

8. (*a*) When is the English preposition 'of' *not expressed* in German? When is it expressed by the *Genitive*; and when by the *preposition* „von"? Add examples. (*b*) Write down *six* prepositions which govern the Dative and Accusative.

9. What is meant by *relative* conjunctions? Mention *six* of them.

10. Translate into German:—

Spring, summer, autumn and winter are the four seasons. The stars rise when the sun sets. The stories of old people are often very interesting. The rich lady has given several handsome presents to her faithful servants. Your nephews have already asked twice after you this morning. They went to the bridge in order to see the river. What o'clock is it? It is half-past three. We shall depart at five minutes to four. They stayed at the house of their friendly neighbours till late in the evening. My eldest brother taught me to read and write. He had been here six months ago. There stands a large oak before our house. The sky is covered with dark clouds; I fear, it will (fut.) rain. The mother reposes with her child at (an, Dat.) the side of the brook. We visited many fine cathedrals and old castles on (auf, Dat.) our journey through Europe.

SENIOR CLASS.

GERMAN.

FRIDAY, APRIL 18TH :— MORNING, 9 TO 12.

Examiner,..... C. F. A. MARKGRAF, M.A.

I. Translate into German :—

Emperor Peter the First of Russia is called the Great, and the son of Charlemagne is called Lewis the Pious. Every one did homage to his wisdom and justice. The king banished the traitors *from* the country. All great men possess perseverance; without *it* (the same) the cleverest and most well-meaning will never attain *any* (a) great purpose. Let us hasten to meet our friends. He opened the door for his guests. The bishop baptized the convert John. During the *late* (last) storms many ships have been wrecked. I was just going to write to you when your letter arrived. He told me he would be happy to be able to serve you. From the eminence on which we stood, we perceived far below in the valley a pleasant little village which lay half hidden among fruit-trees, and from whose church-tower the evening-bell sounded up to us through the still air.

II. Grammar.

1. Define, and illustrate by examples the construction with, *proper* and *improper reflective* verbs.

2. (*a*) Mention some *impersonal* verbs which govern the Dative. (*b*) Mention some *transitive* verbs which govern the Accusative in ordinary, and the Genitive in poetical language.

3. Enumerate those verbs which, when preceded by an Infinitive, are also used in the same mood instead of in the Past Participle.

4. When is the *Present Infinitive* used in German instead of the *Present Participle* as in English?—Give two examples.

5. Write down *eight* verbs of motion, which may take ſein and haben for their auxiliary. When do they take the one, and when the other?

6. Give the meaning and derivation of ſich bücken, folgern, läuten, ſteigern, ſenken, fällen, ſtellen, legen, räuchern, wecken.

7. In relating past events, when is the *Imperfect* used in German, and when the *Perfect*?

8. Give the corresponding English and German idioms of the following phrases:—

We are obeyed.	Ich hätte es nicht glauben können.
I have been told.	Sie wollen dich nicht gesehen haben.
He came running.	Du wirst dich wohl verhört haben.
They are said to be rich.	Wir wüßten wohl ein Mittel.

III. Translate from Lessing's „Nathan der Weise" :—

Act I., Scene V., Pages 27–28.

IV. Literature.

1. Characterize the state of German literature during the Thirty Years' War and immediately at the close of it; and dwell briefly on the merits and demerits of the two *Silesian* schools.

2. Write short sketches of the lives of *Bodmer* and *Gottsched*, and state what you know of the literary struggle between the two rival schools of which they were the leaders.

3. Name the most prominent among those writers who are designated as the "*percursors of the Classical period.*"

4. Give the dates of *Herder's* birth and death, and notice briefly his principal works.

5. Narrate the leading events in the life of *Lessing*. Name his most distinguished contemporaries. Mention the special departments of literature upon which he brought his influence to bear, and with what effect.—Notice critically his "*Laokoon.*" Give the titles of his principal dramas, and an outline of the plot of „Nathan der Weise." What object had *Lessing* in view in writing this play?

B.A. ORDINARY EXAMINATION.

GERMAN.

FRIDAY, APRIL 18TH:—MORNING, 9 TO 12.

Examiner,.....C. F. A. MARKGRAF, M.A.

I. Ueberſetzen Sie ins Deutſche:—

To the last king of Rome, Tarquinius the Proud, an old woman (Weib, *n.*) quite unknown to him offered one day nine books for (zum)

sale, which according to her deposition (Aussage, *f.*) were full of divine revelations (Offenbarung, *f.*). But he did not think them worth the high price she asked *for them*, and refused to buy them. The woman hereupon threw three of the nine books into the fire before his eyes, and then asked him if he wished to have the remaining six for the price *she had* before asked. Tarquinius replied contemptuously, he believed she was not mistress (mächtig) of her senses. Immediately she burnt three more books and demanded the same sum for the last three. Now the king's attention was roused (rege werden); he began to think, as the woman was so certain of her cause (Sache, *f.*,) there might indeed (doch wohl) be oracles (Götterspruch, *m.*) contained in them *which would be* salutary to the State; and wishing to preserve (erhalten) these to the realm, he now paid her for these three books as much as she had first asked for all nine.

II. Grammatik.

1. Wann steht das den Begriff des Adjektivs ergänzende Objekt im Genitiv, wann im Dativ? Führen Sie Beispiele an.

2. (*a*) Von welchen Redetheilen werden abgeleitete Verben gebildet? (*b*) Was für Verben werden durch die Endungen eln, igen, iren gebildet? (*c*) Geben Sie die Bedeutung einer jeden der nachstehenden in der Zusammensetzung mit Verben gebrauchten Vorsilben:—be, ge, ent, er, ver, zer.

3. Uebersetzen Sie, mit Vorweisung der Regel für die deutsche Konstruktion in jedem besonderen Satze:—We spoke to them *without knowing* them. They *shall depart* this day week. He is nowhere *to be found*. We know what *to do*. The masters praised him *for being* diligent. I forgive you *for having* offended me. He proved his courage *by exposing* himself unarmed (unbewaffnet) to the arrows of the savages. *Saying* this, he left the room.

4. Erklären Sie die Art des Verfahrens in Hinsicht auf die Abkürzung deutscher Sätze, um Bündigkeit und Anmuth des Ausdrucks zu fördern; und übersetzen Sie demgemäß:—*Those* (the) nations which inhabit the most northern parts of our globe. The hunter returning from the forest. Onthe banks (Ufer, *n. Sing.*) of the little brook winding (sich durchwinden) between the rocks. The mother who was eagerly expected by her family.

III. Ueberſetzen Sie ins Engliſche:—

Aus Schiller's „Geſchichte des dreißigjährigen Krieges" :—
Zweites Buch.—Seite 113.
Aus Goethe's „Iphigenie auf Tauris" :—
Vierter Aufzug. — Fünfter Auftritt.

IV. Schreiben Sie einen kurzen Aufſatz über die Vortheile eines gründlichen Studiums der deutſchen Sprache.

HEBREW.

JUNIOR CLASS.

MONDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner, ...REV. A. DE SOLA, LL.D.

1. Conjugate the verb למד in the future of *Kal.*

2. Add to the noun תורה sing. and pl. all the pronominal suffixes.

3. Conjugate the verb שמר in *Kal* form preterite tense.

4. Give one general description of all forms of Segholates, and give some examples of the various forms.

5. State the general principles governing the changes of masculine nouns to form their construct cases in the singular; this with more especial reference to mutable and immutable vowels,

6. Write the personal pronouns, in their absolute forms.

7. Give the rules for adjectives when in connection with nouns, showing the modifications for gender and number; write examples.

8. Explain the law of compensation by Dagesh, and exemplify by the definite article, and the preposition מן before a guttural.

9. Show effect of the accent on the vowels, more especially in the shortening of syllables of which give examples.

10. Give with examples, the proper terminations of nouns sing., fem.; pl., masc.; pl., fem.; dual; construct cases of nouns pl., masc., and pl. fem.

11. Translate into Hebrew: His father is a good man. This tree is not so large as that one. He is not so rich (עשיר) as that man, but he is better than this one. He, his wife, his sons and daughters and all that he had went (הלכו) to the city. We went to his large house. Your father has bought (קנה) all these books from that man.

12. Translate into English:—

הבית אשר לו ולה טוב: האיש הזה קנה את כל הבתים האלה: אבי גם אמי היו בגן: העיר הזאת נדולה מאר מאר: האנשים והנשים אשר היו בבית הזה וגם הבנים והבנות אשר הלכו אל הארץ הזאת: הקנה אביך את הבית הגדול הזה: לא טוב הדבר בעיני האנשים האלה:

HEBREW.

SENIOR CLASS.

WEDNESDAY, APRIL 9TH:—MORNING 9 TO 12.

Examiner,.....REV. A. DE SOLA, LL.D.

1. Conjugate the verb נגש in the *Kal* preterite.

2. Translate literally Genesis, chapter 2, from verse 16 to end of chapter, and chapter 3, first nine verses.

3. Analyze fullyin chapter 1, verses 27 and 28; in chapter 2, verses 1 and 2, and in chapter 3, verses 18 and 19.

4. Conjugate the verb למד in the *Niphal* future.

5. Conjugate the verb קטל in the *Piel* preterite, *Hiphil* future, and *Hithpael* future.

6. * Translate Psalms II. and III., and analyze Psalm I, verses 4 and 5, and Psalm IV., vss. 2 and 3.

7. Add the pronominal fragments to the noun שור in singular and plural numbers.

8. Show how, through the effect of certain general principles, all the paradigms of masculine nouns sing. as found in the old Hebrew grammarians and Gesenius may be reduced to two great classes for the formation of their construct case.

9. Give one general description which will include the various examples of Segholate nouns, and give examples of the various forms of pointing of said nouns.

10. Give the rules for the adjective, with examples showing its position and changes of termination when in immediate connection with a noun masc. and fem. sing., and masc. and fem. plural.

11. Translate into Hebrew:—

---

* Sessional.

He was walking in the garden in the cool of the day. Every kind of fruit tree is in my garden. That man and that woman said to the children, you may eat of this fruit, but not of that. The great luminaries which God has placed in the heavens divide day from night, seasons from seasons. The fish of the sea, the fowl of the air and the beast of the field have been all given through (in) God's goodness for man's food.

12. Translate into English :—

ביום השני עשה אלהים את הרקיע ביום השלישי נקוו המים אל מקום אחד ונראתה היבשה והארץ הוציאה דשא עשב מזריע זרע למינהו ביום החמישי ברא אלהים את התנינים ביום הששי עשה את חית הארץ למינה ויקרש את יום השביעי:

STEWART PRIZE IN HEBREW.

GRAMMAR.

WEDNESDAY, APRIL 9TH :—MORNING 9 TO 12.

Examiner,.....REV. A. DE SOLA, LL.D.

1. Explain mutable and immutable vowels; changes of consonants; doubling of consonants; peculiarities of the gutturals, especially as affecting *Sheva* and *Dagesh*.

2. Conjugate the verb שמר in Pret. *Kal* and Fut. *Niphal*.

3. Give rules with examples of *Makkaph*, *Dagesh*, *Mappik*, *Sheva* and *Metheg*.

4. Conjugate the irregular verb נתן fully, in the *Kal* form.

5. Conjugate a verb פ"י e.g. ידע in the Future *Kal* and Preterite *Hiphil*.

6. Give the rules for the definite article, showing changes caused by gutturals; the formation of the plural of masc. and fem. nouns; terminations of nouns fem. sing; dual; construct sing. fem. and cons. plural masc. and plural fem.,—all with examples.

7. Conjugate a reduplicated verb, e.g. סבב in the Pret. and Fut. in the *Kal* form, and show points of analogy with verbs ע"ו and ע"י e.g. קום and בין.

8. Give the rules for adjectives, and show, with examples, how the degrees of comparison are formed.

9. Write out the noun תורה with all the pronominal fragments attached to both singular and plural numbers.

10. Include in one general description the various forms of *Segholates* cited by Gesenius ; and explain the general principles affecting the large number of forms of masculine nouns given by him to show the formation of the construct singular.

11. Conjugate a verb ליה e.g. גלה in Preterite *Kal* and Future *Niphal*.

12. Describe the Hebrew accents, their uses as signs of interpunction, the effect of the tonic accent on syllabication ; give examples, more especially with reference to shortening of syllables in nouns and verbs.

STEWART PRIZE IN HEBREW.

TRANSLATION.

THURSDAY, MARCH 10TH :—MORNING 9 TO 12.

Examiner,.....REV. A. DE SOLA, LL.D.

1. Translate literally, Psalms III and IV.

2. Analyze thoroughly, as follows :—

In Ps. I v. 2, יהגה v. 3, יתן and ועלהו v. 4, תדפנו v. 6, יודע.

In Ps. II v. 2, נוסדו 3, נתקה and מוסרותימו-את v. 5, אלימו v. 7, explain fully the idiomatic expression, אספרה אל חק

In Ps. III בברחו ; Give grammatical forms and explain, *Shir*, *Mizmor Neginoth*, *Nechiloth*, and *Selah*.

3. Translate Genesis ; first half of chapter II, first six verses of ch. III, last six of ch. IV, last six of ch. VIII.

4. Analyze fully in ch. I, verses 3 and 4, in ch. V, v. 5, in ch VI, v. 9.

5. Translate whole first chapter and last six verses of the last chapter of Habakuk.

6. Analyze in ch. I, verses 4 and 5, in ch. II, v. 3, and in ch. III, v. 17.

7. Translate into Hebrew :—

Bring no more vain oblations, incense is an abomination, so the new moons and sabbaths and the calling of assemblies, even the solemn meeting is iniquity. Learn to do well, seek judgment, relieve the oppressed, judge the fatherless, plead for the widow.

8. Translate into English, and point :—

ואשובה ידי עליך ואצרף כבר סגיך ואסירה כל בדיליך ואשיבה שפטיך כבראשנה
ויועציך כבתחלה אחרי־כן יקרא לך עיר הצדק קריה נאמנה ציון במשפט תפדה ושביה
בצדקה׃

CHEMISTRY AND NATURAL SCIENCE.

FIRST YEAR IN ARTS AND APPLIED SCIENCE.

ELEMENTARY CHEMISTRY.

FRIDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner, ...B. J. HARRINGTON, B.A., Ph.D.

1. How is Hydric Sulphide prepared and what are its properties?

2. What are the chief sources and what the properties of Bromine and Iodine?

3. Give the symbols, atomic weights and atomicities of Potassium, Calcium, Copper and Iron.

4. State the composition of British standard Silver, and describe the preparation of frosted and oxydised Silver.

5. Explain the use of Cupric Oxide in the analysis of organic substances.

6. How would you distinguish salts of Calcium, Barium, Strontium and Magnesium from one another when in solution?

7. How is metallic Lead obtained from its Sulphide? Describe briefly the desilverisation of argentiferous Lead according to Pattinson's process.

8. Give the names of the different ores of Iron and the percentages of metal in each.

9. By what tests may Zinc, Aluminium and Arsenic be detected when in solution?

10. Explain by means of chemical equations the changes which take place when Hydrochloric Acid is poured (1) upon Calcic Carbonate, and 2) upon Zinc.

INTERMEDIATE AND SESSIONAL EXAMINATIONS.

WEDNESDAY, APRIL 16TH:—MORNING 9 TO 12.

BOTANY.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. Why is a soil deficient in Phosphates or Alkalis more or less barren?

2. What are the conditions of the supply of Carbon and Nitrogen to plants?

3. What are the physiological uses of Nitrogenous and Non-Nitrogenous pabulum?

4. A plant is described as having flowers monopelatous, bell-shaped, limb five-cleft, anthers opening by pores at the apex, flower racemed. Explain and illustrate by figures the import of these characters.

5. Give as many illustrations as you can of Adnation, with explanations of the nature of some of them.

6. Describe the fertilization and germination of spores of Ferns, and the organs of fructification in *Lycopodiaceæ* and *Equisetaceæ*.

7. Describe the parts of an exalbuminous dicotyledonous seed, and the changes which take place in germination.

8. How would you distinguish an Endogen from an Exogen and a Gymnosperm from an Angiosperm?

9. Trace any Canadian plant through the subdivisions of the classification from the species upward.

10. Describe the structure of the Pollen grain and its precise use in fertilization of the Ovule.

11. Describe any Canadian family of Polypetalous Exogens, with examples.

12. Refer the specimens exhibited to their series, class and order.

THIRD YEAR IN ARTS AND APPLIED SCIENCE.

ZOOLOGY.

THURSDAY, APRIL 10TH:—MORNING 9 TO 12.

Examiner,.....J. W. DAWSON, LL.D., F.R.S.

1. Define the *Protozoa*, and characterise the leading types of the group, with examples.

2. Characterise and classify the animals which produce the calcareous structures called, in the most general sense, Corals.

3. Name the classes of the Mollusca, beginning with the lowest, and characterise and sub-divide that which contains the greater part of the univalve shells.

4. What are the distinctive characters of *Annulata* and *Crustacea*; give the sub-divisions of one of the groups.

5. Describe the Embryonic stages of an Acaleph and an Insect.

6. Characterise and tabulate in Orders or Families, one of the lower classes of Mollusca.

7. Explain the nature and uses of the following structures, and state the classes of animals in which they occur: *Cilia*, *Tracheæ*, *Tube-feet*, *Dart-cells*.

8. Characterise *Crinoidea*, *Rugosa*, *Spiriferidæ*. State the classes to which they belong and their relation to Geology.

9. Divide the Vertebrata into classes, and characterise these.

10. Give the orders of Birds or Fishes, with examples, and describe one.

11. Describe, and refer to their province and class, the specimens exhibited.

FOURTH YEAR IN ARTS AND THIRD YEAR IN APPLIED SCIENCE.

MINERALOGY AND LITHOLOGY.

WEDNESDAY, APRIL 9TH:—AFTERNOON, 2 TO 5.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Name and describe briefly the principal varieties of Quartz.

2. Give the crystalline form, hardness, and specific gravity of each of the following minerals: Pyrite, Argentire, Tourmaline, Garnet and Pyroxene.

3. Give the names and general characters of the minerals known as Zeolites, and state their usual mode of occurrence. Describe one of the members of the group.

4. How would you distinguish Apatite from Beryl and Pyroxene, Calcite from Dolomite, Fluor-spar from Quartz, and Blende from Cassiterite?

5. Point out the principal distinctions between the different varieties of Mineral Coal.

6. Give the names, composition and distinctive characters of the ores of Iron.

7. Name the principal rock-forming minerals, and distinguish between essential and accessory constituents of rocks.

8. Describe briefly the rocks known as Volcanic Glasses, and name the rocks of which they may be regarded as vitreous representatives.

9. What are the constituent minerals of Basalt, Diorite, Granite and Syenite?

10. Give the names and characters of the more important Crystalline Schists.

11. Name the Rocks and Minerals exhibited, stating in each case the grounds of your determination.

B.A. AND THIRD YEAR SCIENCE ORDINARY EXAMINATION.

GEOLOGY.

WEDNESDAY, APRIL 9TH:—MORNING 9 TO 12.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. State the subdivisions of the Laurentian, and the precise horizon and affinities of *Eozoon Canadense*.

2. Tabulate the Cambrian of England and Wales, and state the representatives of its subdivisions in Eastern America.

3. Describe the Palæozoic formations represented in the vicinity of Montreal in their order, and mention the characteristic fossils of one of them.

4. In what parts of Canada may the Medina, Corniferous, and Hamilton formations be studied, and by what mineral characters and fossils may they be recognised?

5. Give some account of the characteristic fossil plants and vertebrate animals of the Devonian, or of the Carboniferous.

6. Characterise the principal subdivisions of the Mesozoic in Europe, with their more distinctive fossils.

7. State the general distribution of Tertiary rocks in North America, and to which of the subdivisions recognised in Europe they may be referred.

8. Under what conditions were the Boulder clay and Leda clay deposited?

9. What are the Geological and Zoological or Botanical relations of *Ammonites, Phacops, Lepidodendron, Dendrerpeton, Cephalaspis, Columnaria.*

10. State what you know of the specimens exhibited, as to their nature and geological ages.

THIRD YEAR EXAMINATION FOR HONOURS.

MINERALOGY.

FRIDAY, APRIL 18TH:—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Define the parameters of a plane, and state the law of simple mathematical ratio.

2. Give expressions for the planes of the Regular Octahedron, Trigonal Trisoctahedron and Trapezohedron.

3. Prove the truth of the expression $a : 2a : 2a : c$ for planes of the Hexagonal Pyramid of the second order.

4. What are twin crystals, and what an axis of revolution?

5. Give the names and composition of the principal ores of Silver, and describe one of them.

6. Give the chemical and crystallographical characters of Aragonite, Barite, Spinel and Muscovite.

7. What are the blowpipe characters of Chalcocite, Blende, Stibnite and Stilbite?

8. Name the more important minerals containing Boric Acid, Phosphoric Acid, and Fluorine, and give tests for the detection of these constituents.

9. Describe the sublimates produced by each of the following minerals when heated in closed tubes; Cinnabar, Pyrite, Arsenopyrite and Tetrahedrite.

10. Name the specimens exhibited, giving the reasons for your determination.

Determination of minerals with the Blowpipe in the Laboratory, afternoon, 2 to 5.

LITHOLOGY.

THURSDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiners,..... ..... { J. W. DAWSON, LL.D., F. R. S.
B. J. HARRINGTON, B.A., Ph.D.

1. Give the exact significance of the following terms: Schistose, foliated, laminated, shaly and slaty.

2. Name the members of the basic group of Volcanic rocks and describe them briefly.

3. Describe Obsidian and Pitchstone, with their mode of occurrence in nature.

4. Describe Gneiss and Amphibolite, giving the principal accessory minerals which they may contain.

5. Give the names and characteristics of the principal varieties of Granite.

6. What are the constituent minerals of Gabbro, Norite and Diabase?

7. Describe Quartz-porphyry and Felsite, stating their geological relations.

8. Give examples of single minerals which constitute important rock masses in Canada.

9. Name and describe fully the rock specimens exhibited.

B. A. EXAMINATION FOR HONOURS IN GEOLOGY AND NATURAL HISTORY.

MINERALOGY.

MONDAY, MARCH 31ST :—MORNING, 9 TO 12.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Give the names and chemical formulæ of the native hydrous Oxides of Iron, and describe the most important one.

2. Describe the cleavages of the following minerals: Galena, Fluorite, Sphalerite, Orthoclase, Pyroxene and Hornblende.

3. What is the chemical composition and what the geological relations of Chrysolite, Serpentine and Hypersthene.

4. How would you distinguish Cuprite from Zincite, Wernerite from Orthoclase and Wollastonite, Cassiterite from Rutile?

5. State the mode of occurrence and economic applications of Chromite, Apatite, Gypsum and Heavy-spar.

6. Classify the different varieties of Garnet according to chemical composition.

7. Give the crystalline form, hardness and specific gravity of Zircon, Nepheline and Leucite. Of what rocks are these minerals constituents?

8. What is the composition of the Ruby, Emerald, Topaz and Turquois?

9. What are the minerals comprised in the Spinel group, and what their crystalline form?

10. Name the minerals exhibited, and describe four of them.

GEOLOGY AND PALÆONTOLOGY.

TUESDAY, APRIL 15TH:—9 TO 12 A.M., AND 2 TO 5 P.M..

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Trace the Southern boundary of the Laurentian in Canada, and mention the formations with which it is in contact.

2. State the stratigraphical relations of the Huronian to the Laurentian and to overlying formations in the Lake Huron District and in Newfoundland.

3. Enumerate the characteristic fossils of the Acadian Group in New Brunswick. Mention equivalents of that Group elsewhere.

4. Give in a tabular form the series of Lower Silurian rocks in Eastern America, with their European equivalents, and describe one of the formations, naming some of its fossils.

5. Compare the rocks and fossils of the Quebec Group with those of corresponding formations in the New York series and in England.

6. Describe the following formations, and state their geological position and characteristic fossils:—Oriskany, Corniferous Limestone, Millstone Grit.

7. State the peculiar conditions of deposit indicated by the Salina Group in Ontario and the Gypsiferous series in Nova Scotia.

8. Explain the connection of Underclays, Ironstones and Shelly Bituminous Limestones with Coal Beds.

9. Enumerate, under their Zoological Groups, the characteristic fossils of the Niagara Limestone and Lower Carboniferous Limestone.

10. In what formations in Canada do the following genera occur, and what is their precise range in geological time: *Calamites*, *Chonetes*, *Pro-*

ductus, Eurypterus, Conocephalites, Trinucleus, Cephalaspis, Dictyonema, Orthis, Psilophyton?

EXAMINATION IN SPECIMENS.

Refer the specimens exhibited to their geological formations, and to their places in the Zoological and Botanical classifications.

MONDAY, APRIL 21ST:—9 TO 12 A.M., AND 2 TO 5 P.M.

THIRD PAPER—GEOLOGY AND PALÆONTOLOGY.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S. / B. J. HARRINGTON, B.A., Ph.D.

1. State the stratigraphical relations of the Carboniferous and Triassic systems in the Acadian Provinces, and the fossils of the Trias.

2. Explain the special characteristics of the Wealden in Europe, and the Dakota group in America.

3. What is the chemical or organic nature, and what the origin of Chalk and Greensand?

4. Explain the order of succession of Tertiary Deposits in the Western Territories of Canada, and notice their fossils, useful minerals and conditions of deposit.

5. State the reasons for and against the theories of Land and Marine Glaciation, as applied to the Boulder Clay.

6. What is the present state of knowledge respecting the relations of the Triassic, Cretaceous and Tertiary Floras, with respect to their general resemblances and differences, and in comparison with modern plants?

7. In what formations and under what generic forms do the following groups first appear:—*Reptilia, Marsupialia, Myriapoda, Crocodilia, Aves, Belemnitidæ?*

8. Tabulate the Mesozoic Formations of England, and state their equivalents in America as far as known.

9. State fully the geological and zoological or botanical relations of the following fossils: *Microlestes, Ventriculites, Gryphea, Mosasaurus, Beryx, Nummulites.*

10. State the geological age and characteristic fossils of the following formations:—Leda Clay, Lias, Permian.

EXAMINATION IN SPECIMENS.

11. Catalogue the Fossils contained in the specimens exhibited, and refer them to their respective Geological Formations.

LITHOLOGY.

THURSDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., D.Ph.

1. Explain the significance of the terms older and younger as sometimes applied to eruptive rocks.

2. Classify the different members of the Trachyte group and describe one of them.

3. Of what rocks are the following minerals important constituents:—Chrysolite, Nepheline, Labradorite, Hypersthene and Leucite?

4. Give descriptions of the following rocks:—Granulite, Norite, Lherzolite and Foyait.

5. What are the geological relations of Argillite, Mica Schist, Serpentine and Diorite?

6. What do you understand by Fluidal Texture, Microlites, Trichites and Belonites?

7. What are the principal alterations to which Augite and Chrysolite are subject in eruptive rocks?

8. Describe the more ordinary appearances of Diorite, Diabase, Dolerite and Obsidian when examined in thin sections with the microscope.

9. Name the rocks exhibited and describe them fully.

PRACTICAL GEOLOGY.

THURSDAY, APRIL 24TH:—AFTERNOON, 2 TO 5.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., Ph.D.

1. Explain the modes of proceeding in a geological survey, and state their application to any district of Canada.

2. What are the laws of alluvial deposits of metals; state their practical applications to exploring and working.

3. Draw a section illustrating the relations of the Eozoic and Palæozoic formations in Western Canada.

4. What are the most important observations to be made in the case of Faults and Unconformable Superposition.

5. How may the ages of Igneous Masses and Veins be ascertained?

6. Mention the facts to be observed and noted in examining a natural section or exposure of rocks, and the methods of ascertaining and recording them.

7. What formations in Canada would be indicated by the prevalence of the following genera :—*Phyllograpsus, Trinucleus, Leptaena, Stigmaria, Pentamerus, Spirifer, Petraia, Conocephalites.*

8. Explain the methods of indicating geological phenomena on maps, and illustrate by an imaginary map, accompanied with a section.

FACULTY OF APPLIED SCIENCE.

(*N. B.—For Papers in English, French or German, Experimental Physics, Geology, and Chemistry, see Faculty of Arts.*)

MATRICULATION EXAMINATION, 1878.

SECOND YEAR.

GEOMETRY—ARITHMETIC.

Examiner,.....G. H. CHANDLER, B.A.

1. The angles at the base of an isosceles triangle are equal to one another.

Hence show that every equilateral triangle is also equiangular.

2. The three interior angles of every triangle are together equal to two right angles.

3. If a straight line be divided into any two parts, the square on the whole line is equal to the squares on the two parts, together with twice the rectangle contained by the two parts.

4. Find the centre of a given circle.

5. The opposite angles of a quadrilateral inscribed in a circle are together equal to two right angles.

6. In a given circle inscribe an equilateral and equiangular pentagon.

7. Similar triangles are to one another in the duplicate ratio of their homologous sides.

8. Find a fourth proportional to three given straight lines.

9. Find the simple interest on $243.80 for 2 years, 5 months at 8 per cent.

10. Find the square root of 28.8369.

11. A block of stone is 2 yds. 1 ft. 3 in. long, 1 ft. 7 in. broad, and 2 ft thick, find its value at 2s. 3d. per cubic foot.

SECOND YEAR.

TRIGONOMETRY—ALGEBRA.

Examiner,.....G. H. CHANDLER, B.A.

1. Find the number of degrees, minutes and seconds in the unit of circular measure.

2. Prove the following relations:

$$Sec^2 A = 1 + tan^2 A;$$

$$Sin A = \frac{tan A}{\sqrt{1 + tan^2 A}};$$

$$tan\, x \cos x = \sqrt{1 - cos^2 x}$$

3. Find the sine, cosine and secant of 60°.

4. Prove $sin\,(A + B) = sin\, A\, cos\, B + cos\, A\, sin\, B$;

$$1 - cos\, A = 2\, sin^2 \frac{A}{2}.$$

5. Write down the expressions for $sin \frac{1}{2} A$, $cos \frac{1}{2} A$, and $tan \frac{1}{2} A$ in terms of the sides a, b and c.

6. At 140 feet from the base of a tower, and on a level with the base, the angle of elevation of the top was found to be 54° 27′. Find the height of the tower.

7. The sides of a triangle are 2, $\sqrt{6}$ and $1 + \sqrt{3}$: find the angles.

8. Each of two ships, half a mile apart, finds the angles subtended by the other ship and a fort to be respectively 85° 15′ and 83° 45′. Find the distance of each from the fort.

9. Solve the following equations:

$$\frac{4}{5}x - \frac{5}{4}x + 18 = \frac{1}{9}(4x + 1)$$

$$\frac{x}{x+1} - \frac{3x}{x+2} = -2;$$

$$\frac{x}{x+} + \frac{x+1}{x} = 2\frac{1}{6}.$$

10. Find x and y from the following simultaneous equations:

$$\left.\begin{aligned} \frac{x+2}{7} + \frac{7-x}{4} &= 2x - 8, \\ \frac{2y - 3x}{3} + 2y &= 3x + 4 \end{aligned}\right\}$$

$$\left.\begin{aligned} x^2 + y^2 &= 13, \\ x + y &= 5 \end{aligned}\right\}.$$

11. Find the sum of 50 terms in Arithmetical Progression, of which the first is 3 and the last 199.

12. Expand $(2x - 3y)^5$ by the binomial theorem.

13. There is a certain number of which the cube root is one-fifth of the square root: find it.

CHRISTMAS EXAMINATIONS, 1878.

FIRST YEAR.

GEOMETRY.

TUESDAY, DECEMBER 17TH:—MORNING, 9 TO 12.

Examiner,..... GEORGE H. CHANDLER, B.A.

1. Describe a circle touching a given circle and a given straight line at a given point.

2. Divide a given straight line into two parts such that the difference of the squares on the parts may be equal to a given square.

3. Given the base and vertical angle of a triangle, find the locus of the vertex.

4. If any transversal cut the sides of a triangle the products of the alternate segments are equal. Show that the converse of this proposition is also true.

5. Prove by the theory of transversals (or otherwise) that the three bisectors of the angles of a triangle are concurrent.

6. When is a line said to be divided harmonically? Explain the meaning of *harmonic range* and *harmonic pencil*.

7. If a line is divided internally and externally in the same ratio, it is divided harmonically.
Prove that the bisectors of the internal and external angles of a triangle form with the sides a harmonic pencil.

8. Given three rays of a harmonic pencil, or three points of a harmonic range, find the fourth.

9. In a complete quadrilateral, each of the three diagonals is divided harmonically by the other two.

SECOND YEAR.

SOLID GEOMETRY—PLANE TRIGONOMETRY.

TUESDAY, DECEMBER 10TH :—MORNING, 9 TO 12.

Examiner,..... ....G. H. CHANDLER, B.A.

1. If a straight line is perpendicular to each of two intersecting straight lines at their point of intersection, it will be perpendicular to the plane which contains them.

2. If two straight lines are cut by three parallel planes, they will be cut proportionally.

3. To two straight lines in space not being in the same plane, one common perpendicular can be drawn, and this will be the shortest distance between the given lines.

4. The areas of the sections of a pyramid, made by planes parallel to the base, are proportional to the squares of their distance from the vertex. Hence show that pyramids having the same height and equal bases are equal in volume.

5. Find the sine, cosine and tangent of 60°.

6. Prove :—

$$tan.\,(A + B) = \frac{tan\,A + tan\,B}{1 - tan\,A\,tan\,B}$$

$$1 + cos\,2\,A = 2\,cos^2 A$$

$$\frac{1 - cos\,A}{sin\,A} = tan\,\frac{A}{2}$$

7. Explain a method of finding the angles of a triangle when the three sides are given.

8. Show how the distance of two objects in a horizontal plane, which are inaccessible to each other, may be found.

Two objects in a fortified town are seen from a station at which they subtend an angle of 49° 25′; their distances from the station are known to be 1,020 and 1,680 yards respectively. What is the distance between the objects?

9. A headland bore due north of a ship at A; after the ship had sailed ten miles due east to B the headland bore N. W. Required the distance of the headland from A and B.

10. From the top of a hill the angles of depression of two consecutive mile stones on a straight level road are found to be 12° 13′ and 2° 45′. Find the height of the hill.

11. The length of a road, in which the direct ascent is one foot in five, from the foot of a hill to the top is $1\frac{2}{3}$ miles. What will be the length of a zigzag road in which the ascent is one foot in twelve?

12. At what distance on the earth's surface should two mountains, three miles and two miles high respectively, be placed, in order that the summit of each should be just visible from the summit of the other?

SECOND YEAR.

MECHANICS.

TUESDAY, DECEMBER 17TH:—MORNING, 9 TO 12.

Examiner,.....GEORGE H. CHANDLER, B.A.

1. What are the different kinds of velocity? How are the units chosen n each case? State the principle of the parallelogram of velocities, and illustrate it by familiar examples.

2. Explain carefully the meaning of the symbols in the equations:

$$s = v\,t,\ s = \frac{vt}{2}.$$

3. A body is thrown upward with a velocity of 86 feet per second. How long after will the body strike the ground?

4. State Newton's laws of motion. What examples would you cite in evidence of the first law?

5. Assuming the principle of the parallelogram of accelerations, deduce that of the parallelogram of forces. How are forces measured? Show that the weight of a body is proportional to its mass.

6. When three forces act on a body and keep it at rest, show that they must either meet in one point or not meet at all.

A uniform beam A B weighing 100 lbs., is hinged at A, and rests in a horizontal position under the pull of a weight W attached to a string which passes over a pulley and is fastened to B, making an angle of 30° with the beam. Find W and the pressure on the hinge.

7. What is meant by "the principle of the lever stated generally?" How is the principle of the lever involved in that of the fusee?

8. A uniform heavy beam is supported at its extremities; find the breaking strain at any given point in the beam.

9. Find the centre of gravity of a triangle.

A B C a triangular board weighing 10 lbs. Suppose weights of 5 lbs.,

5 lbs., and 10 lbs., are placed at A, B, and C respectively. Where is the centre of gravity on the whole?

10. Describe the steelyard and the method of graduating it.

11. Show that in the screw

P (circumference of circle described by P) = W (pitch of screw.)

The radius of the hand lever wheel which turns the screw connected with the break of a railway carriage is 7 inches and the pitch of the screw is $\frac{1}{2}$ an inch. Find the advantage gained by the combination.

THIRD YEAR.

FRICTION.

FRIDAY, DECEMBER 13TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, B.A.

1. Write down the laws of friction, and explain an experimental proof of one of them.

2. Prove that the reaction of a rough surface, when motion is about to begin, is inclined to the perpendicular at an angle equal to the angle o repose.

3. A rough plane is inclined at 30° to the horizon. A weight W is placed on it, and it is found that a force $\frac{3}{4}$ W acting parallel to the plane will just move the weight up the plane. Find the co-efficient of friction.

4. A rod is balanced on a rough horizontal cylinder and loaded at one end. When will the rod begin to slip?

5. Show that the amount of work required to overcome friction in a single revolution of an axle is

$$2 \pi r X \tan a$$

where r is the radius of the axle, X the resultant of all the forces which press it on its bearing, and a the angle of repose. How is this quantity diminished in watch-work? What are the principal advantages and disadvantages of conical bearings in machinery?

6. Write down the general expression for the modulus of a machine, and explain the meaning of the symbols employed. Find the modulus of the wheel and axle.

THIRD YEAR.

MATHEMATICS.

TUESDAY, DECEMBER 17TH:—MORNING, 9 TO 12.

Examiner,..... .....GEORGE H. CHANDLER, B.A.

1. What kind of spherical triangles does Spherical Trigonometry treat of? How are the sides of a spherical triangle measured?

2. Show that the sides and angles of a spherical triangle are the supplements of the angles and sides respectively of its polar triangle.

3. Investigate a formula for the angle of a spherical triangle in terms o the sides.

Show that in every spherical triangle

$$\frac{Sin\ A}{sin\ a} = \frac{Sin\ B}{sin\ b} = \frac{Sin\ C}{sin\ c}$$

4. Prove Napier's first Analogy and hence deduce the third Analogy.

5. In a spherical triangle $A = 35°\ 20$, $a = 22°\ 53$, $b = 30°$; find B.

6. Prove the expansion

$$a^x = 1 + Ax + \frac{A^2 x^2}{1.2} + \frac{A^3 x^3}{1.2.3} + \text{\&c.}$$

where $A = lag_e a$.

7. Explain carefully the meaning of a differential co-efficient. What principle do you assume as the foundation of the Calculus?

8. If $u = \frac{v}{w}$, show that

$$\frac{du}{dx} = \frac{w\frac{dv}{dx} - v\frac{dw}{dx}}{w^2}$$

9. Differentiate $sin\ x$, $tan^{-1} x$, a^x and $log\ x$.

10. If $y = a\ cos\ (log\ x)\ \ b\ sin\ (log\ x)$, prove that

$$x^2\frac{d^2y}{dx^2}\ x + \frac{dy}{dx} + y = 0$$

11. What is the meaning of *integration*?

Integrate $\int x^6\ dx$, $\int (sin\ x + sec^2 x)\ dx$.

12. Integrate $\int \frac{dx}{\sqrt{1-x^2}}$, $\int \frac{dx}{\sqrt{x^2+a^2}}$.

13. Show that

$$\int \frac{dx}{cos\ x} = log\ tan\left(\frac{\pi}{4} + \frac{x}{2}\right) + c.$$

14. Assuming the expansion of $sin\ x$ in terms of x, find (by differentiation or otherwise) that of $cos\ x$.

SANITARY ENGINEERING.

THURSDAY, FEBRUARY 13TH, 1879.—2 P.M.

1. Enumerate the *data* you would require to enable you to report on the sufficiency of a proposed scheme of sewage for a given district.

Explain *clearly* how the manipulation of the road detritus affects such a scheme.

2. State *briefly* the best mode of disposing of the sewage of:—(1) Seaboard towns:—(2) Towns or estuaries and tidal rivers:—(3) Inland towns

3. Discuss the following rules:—

(1) No sewer should pass under any dwelling, if it can possibly be avoided.

(2) The ground under and surrounding the dwelling should be drained, so that there shall be no subsoil water within three feet of the foundations.

4. What is meant by the mean hydraulic depth of a channel?

A sewer, having a circular cross section of 3 feet diameter, is filled to one-fourth of its depth; find the hydraulic mean depth, and if the sewer has a fall of 1 in 200, find the number of gallons of sewage discharged per minute.

5. Define the conditions which should determine the sectional form of a sewer.

Compare the respective qualities of egg-shaped and circular sewers.

6. Describe any form of oval sewer with which you may be acquainted, and find its hydraulic mean depth when running full.

7. What is meant by self-cleansing sewers? Explain in detail the conditions which determine whether a sewer is self-cleansing or not, and the precautions which should be taken in its construction to make it self-cleansing.

8. Explain why it is that the quantity of water which passes through a pipe (other things being the same) is altered by altering its *length* merely. In what cases must account be taken of the *form*, as well as of the *area* of the section of the pipe?

9. Enumerate the different methods, with their requisite formulæ, by which may be determined the volume of sewage flowing through a sewer

10. Design a sewer to convey away the sewage of a district covering an area of 100 acres and populated by 25,000 inhabitants. (Neglecting the allowance to be made for storm water.)

The sewer is to be of brick, and to be laid at a depth of 15 feet below het surface; find the necessary thickness of the brick work.

What are the objections, if any, to allowing brick sewers to run full or under pressure.

11. A certain portion of a line of sewer has to be constructed of Portland cement concrete; write out a specification for such work.

Describe some method of testing the quality of the cement used.

12. Explain *fully* the result of forming right-angled and curved junctions above the flow of the ordinary water-line of a sewer.

13. Enumerate all the causes known to you in consequence of which traps may fail in their object, and specify the remedy to be applied in each particular case.

The street gullies in a town have been constructed with a sealed trap, so that the gas in the sewer is prevented from coming out into the street by the passage which admits water from the street. Is there any objection to this plan, and if so, how would you obviate it?

14. Describe completely, with sketches, any *two* of the following :— Flushing Gate, Manhole, Trap, Penstock.

15. What advantages are gained by flushing?

Can flushing be attended with any evil result?

16. A sewer having a circular cross section of 4 feet diameter, and running half full, conveys 2,500 gallons of sewage per minute: what diameter would it be necessary to give to a circular sewer running full to convey half the quantity, the inclination being the same?

Give the quantity which would flow through the larger sewer when filled to one-fourth of its depth.

SESSIONAL EXAMINATIONS, 1879.

(COURSE OF CIVIL ENGINEERING.)

SECOND YEAR.

ESSAY.

MONDAY, APRIL 7TH. :—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., C.E.

Write an essay on the SECTIONAL FORM OF SEWERS, noticing the following points :—

(a). *The forces which act upon a sewer, and the principle of its construction.*

(b). *The respective qualities of egg-shaped and circular sewers.*

(c). *Any peculiar features of ancient sewers, pointing out their defects, and how they are remedied in modern sewers.*

(d). *The chief characteristics of the London and Paris sewers with remarks as to their respective efficiencies.*

(e). *Particular forms of sewers, and the calculations of their mean hydraulic depths, both when running full and up to the level of the springing of the upper arch.*

And anything further relating to *special* rules for large and small sewers, to the limiting size of sewers, and to causes which may tend to stop the flow of the sewage, and render the sewers inefficient.

(COURSE OF CIVIL ENGINEERING.)

SECOND AND THIRD YEARS.

SANITARY ENGINEERING.

TUESDAY, APRIL 1ST :—MORNING, 9 TO 1.

Examiner,.....HENRY T. BOVEY, M.A., C.E.

1. State the advantages and disadvantages of admitting the rainfall into sewers. How would you deal with the rainfall of the City of Montreal?

2. Enumerate the points to be considered in fixing the position and size of the main outfall sewer. What is your opinion concerning the use of the outfall sewer as an occasional reservoir for the sewage?

3. On what principles would you design the size of the sewers in a town? State all the data you would require for the calculation.

4. Describe the construction of a brick sewer, and explain how continuous joints through the rings are avoided.

Write out a specification for the brickwork.

5. Design a sewer to convey away the sewage of a district covering an area of 50 acres, and populated by 10,000 inhabitants. The sewer is to be of brick, and to be laid at a depth of 20 feet below the surface, find the requisite thickness of the brickwork.

6. What are intermittent, and what self-cleansing sewers? State the conditions which determine whether a sewer is self-cleansing or not, and the precautions which must be taken in its construction to make it self-cleansing.

A sewer of circular section, 5 feet in diameter, is capable of discharging 2,000 cubic feet per minute: will it be self-cleansing?

7. A recently constructed sewer of circular section has a fall of four feet

per mile, and is capable of discharging 8,000 cubic feet per minute : find its diameter and also its mean hydraulic depth when running ⅔ths full.

How does the variation of the mean hydraulic depth affect the flow of the sewage ?

8. How are stone-ware pipes jointed? How is a junction formed between two brick sewers ?

What effect will a bend have upon the flow of the sewage ?

9. A sewer of circular section, 3 feet in diameter and running half-full, conveys 3,000 gallons per minute : what must be the diameter of a sewer running half-full to convey double this quantity ?

10. Explain briefly the use of inverted syphons, storm overflows and tide valves. Point out the principal characteristics of tide valves.

11. At what points along a line of sewers should manholes be constructed? Compare the respective qualities of manholes which enter (*a*) from the centre, (*b*) from the side of the street.

12. What are gullies? Distinguish between the two varieties of gully. What precaution should be taken in cold climates to prevent them from being frozen up ?

13. In what manner is the flushing of the drains between the house and main sewer effected? Can flushing be attended with any consequent evil ?

14. Enumerate the points which should regulate the adoption of any Proposed method for ventilating a system of sewers.

Why must traps be ventilated ?

15. Describe in detail two of the following, with all requisite sketches : Manhole, Penstock, Flushing Gate, Ventilator.

16. What are the points to be attended to in the construction of house drains? Sketch a diagram showing what you consider the proper connections for a system of house-pipes. The system is to begin at the main sewer and main water-pipe, and to include a water-closet, a kitchen sink, a bath, a wash-hand basin, a tap for drinking water, and a boiler ; all necessary traps, ventilating pipes, overflow pipes, and cisterns to be indicated.

(COURSE OF MECHANICAL ENGINEERING)

THIRD YEAR.

ESSAY.

TUESDAY, APRIL 1ST:—MORNING, 9 A.M.

Examiner, ...HENRY T. BOVEY, M.A., C.E.

Write an essay on SCREW-CUTTING, noticing the following points:

(*a*) *The two kinds of screw-cutting and their respective characteristics.*

(*b*) *The classification of screw-cutting machines.*

(*c*) *The advantages and disadvantages of giving a running motion* (1) *to the dies*, (2) *to the blanks.*

(*d*) *Screw-cutting tools.*

(*e*) *The methods of cutting short screws and screws of small diameter.*

And also anything further relating to the calculations of the gear wheels for screws, and the threads of screws.

N.B.—The essay should be illustrated by sketches.

(COURSE OF MECHANICAL ENGINEERING.)

THIRD YEAR.

MECHANICAL WORK.

WEDNESDAY, APRIL 9TH:—MORNING, 9 TO 1.

Examiner, ...HENRY T. BOVEY, M.A., C.E.

1. How do you determine the proportion of "rake" to be given to the top, bottom, and side faces of a tool?

In what respect do tools for use on iron and steel work mainly differ from those for use on brass work?

Distinguish between "side" and "front" tools, and describe what you consider to be the most suitable side tool for brass work.

Why do tools bend and break when hardening, and how do you remedy such an evil?

2. Explain the terms "cutting speed" and "feed" as applied to machine tools.

Why do questions of "speed" and "feed" become of great importance when treating of lathe work?

3. Classify the different kinds of gearing.

Give reasons why one of a pair of wheels is often filled with wooden cogs.

Why is the life of tangent and worm wheels comparatively short?

4. Explain what is meant by "compound (or double) geared," as applied to the screw-cutting gear of a lathe.

It is required to cut 25 threads to the inch, the pitch of the screw being $2\frac{1}{2}$. The gear on the lathe mandril contains 30 teeth, and runs into the largest of the compounded gears which contains 45 teeth, the small gear of the compounded pair contains 12 teeth. Find the number of teeth in the wheel required for the feed screw.

5. Why is sand used for moulding? Distinguish between green and dry sand mouldings. What is meant by "venting" a mould?
State the precautions usually taken to avoid cooling strains in castings.

6. Describe fully the process of turning a crank.

7. How are "piston rings" generally made? When a ring is split it springs "out of true"; what is the cause of this defect, and how would you remedy it?

8. What is a "reamer"? Illustrate the necessity of such a tool by shewing how an eccentric rod double-eye is fitted to a link.

9. Into what two classes are steam hammers divided? State the conditions under which it is desirable to have an automatic valve motion.

Will a hammer operate equally well with air and steam?

Does the weight of a single acting hammer produce a greater or less effect upon the under side of a piece of metal than its speed?

10. What is a "chuck"? Distinguish between the two kinds of "dog chuck." What is a chuck dog?

11. Point out the characteristics of the different kinds of lathe carriage.

Why are planing machines usually constructed with a running carriage instead of running tools?

12. State clearly the difference between "boring" and "drilling." Under what circumstance is chuck-boring resorted to?

When is it necessary to make use of the lathe for drilling purposes?

13. To what class of work are "milling" machines specially adapted?

Milling machines produce more accurate dimensions than can be attained by either turning or planing. Why is this ?

14. Enumerate the considerations which will determine the shape of a "cutter."

(COURSE OF CIVIL ENGINEERING.)

THIRD YEAR.

ESSAY.

THURSDAY, APRIL 10TH :—MORNING, 9 A.M.

Examiner,.....HENRY T. BOVEY, M.A., C.E.

Write an Essay on the Design and Construction of Masonry Walls for retaining water, and remark on the following points :—

(*a*) *The resistance of the wall to rupture* :—(1) *By the sliding of the different layers upon one another.* (2) *By being overthrown round the toe.* (3) *By the bulging or breaking of the body of the masonry.*

(*b*) *The determination of the proper thickness of successive layers.*

(*c*) *The method of obtaining the curve of the centres of pressure, and the practical use of such curves.*

(*d*) *The object of giving a batter to the face, or back, or to both face and back.*

(*e*) *The object and dimensions of counterforts.*

(*f*) *The most suitable building material, and the manner of construction*

(*g*) *The efficiency of concrete walls.*

(*h*) *The mode of strengthening very high walls.*

If the wall were to retain earthy material, compare the pressures induced on the wall with those due to water, and deduce the latter from the former by a consideration of the ellipse of stress.

(COURSE OF MECHANICAL ENGINEERING.)

THIRD YEAR.

GEOMETRY OF MACHINERY.

THURSDAY, APRIL 17TH :—MORNING, 9 TO 1.

Examiner,.....HENRY T. BOVEY, M.A., C.E.

1. Show how to compare the velocity of two pieces, one of which has a motion of rotation, and the other a linear motion.

A B and C D are two radius rods turning about fixed centres of motion A and C, and connected by a link B D, which in the mean position is perpendicular to A B and C D. Find the position of the *parallel point* in B D, and hence deduce the motion of a slide.

2. Given at any instant the directions of motion of any two points in a rigid body relatively to a third point A in the body. Show how to find the instantaneous axis of the motion of the whole body.

A given curve turns round a fixed centre, and moves by sliding contact a second curve round a second fixed centre. Show how to express the velocity ratio of any two points in the plane of the curves, one being carried by each curve.

3. Show, by an arrangement of link work, how to produce a return motion which shall be three times as quick as the advance.

4. Describe, *fully*, with sketches, the involute cam, and give examples of its use.

Design a rotating cam to move a sliding piece in the following manner:—The sliding piece remains at rest while the cam turns through 120°, moves uniformly forward 2 inches through the next 180°, and uniformly backwards through the remaining 60°.

How must such a motion be modified in practice, and for what class of machines is it suitable?

5. Under what conditions should belts be used to connect rotating pieces in machinery?

When belts are run horizontally, should the upper or lower portion be the driving half? Give reasons for your answer.

It is required to run a machine 1500 revolutions per minute, and the driving shaft makes 150 revolutions per minute, what size of pulleys shall be used?

6. There are two groups of five-speed pulleys each, and the diameters of the extremes are 24in. and 6in. Find the intermediate diameters, assuming that the velocity-ratios of successive pairs of pulleys follow in geometrical progression.

7. Determine the forms of the pitch-surfaces of the wheels connecting two rotating pieces, and state the technical names of such wheels:—(1) When the axes are parallel; (2) When they intersect; (3) When they neither intersect, nor are parallel.

Show how to design the pitch surfaces of bevel wheels whose shafts meet at an angle of 45°, so that the velocity-ratio may be 2.

8. What are the conditions to be aimed at in forming the teeth of wheels?

Show how to set out an epicycloidal tooth, and enumerate the data you would require to enable you to calculate the necessary dimensions.

9. If the teeth of a set of wheels are traced by means of a constant describing circle, deduce an expression for their length. What advantage is possessed by wheels whose teeth are formed on this principle?

10. Describe the form of the teeth of a pair of spur wheels, whose radii are 15 inches and 9 inches respectively, the number of teeth on the larger wheel being 45. The teeth are traced by means of a *constant describing circle* whose radius is 6 inches.

Find the length of the teeth so that both approaching and receding contact may $= \frac{2}{3}$ pitch.

11. Define the terms click and ratchet. Why are several ratchets sometimes used?

Describe the double-acting click.

12. Illustrate by a curve, the relative motion of the pieces in a combination of a crank and slot, the time forward being thrice that of the return.

13. Distinguish between aggregate velocity and aggregate motion, and illustrate your answer by sketches.

14. Define and classify "Adjustments."

Sketch an arrangement for connecting and disconnecting two rotating pieces in motion without shock.

THIRD YEAR.

APPLIED MECHANICS. (*First Paper.*)

MONDAY, APRIL 21ST:—MORNING, 9 TO 1.

Examiner.....HENRY T. BOVEY M.A., C.E.

1, State and define the four constants whose values enable us to determine the strength of a body.

An edifice weighing 9,000 tons is to be erected upon foundation walls constructed of well dressed blocks of gneiss. The outer length of the walls is 63 feet and the breadth 37 feet. Find the necessary thickness of the foundation walls, the crushing strength of gneiss being 5,100 lbs. per square inch, and the factor of safety being taken at 15.

2. Two plates 30 inches wide and $\frac{1}{2}$ inch thick are riveted together by $\frac{3}{16}$ inch rivets. Assuming that the tensile strength of wrought iron is equal to its shearing strength, find the requisite number of rivets so that the rivets may be as strong as the riveted plates.

3. Explain, *fully*, the effect of fixing the end or ends of a beam.

A beam 30 feet in length is uniformly loaded with a weight of 1 ton per foot run. Find the maximum bending moment, (1) when the beam rests on the horizontal supports, (2) when the beam is rigidly fixed at one end, and the other end rests on a support.

In the second case draw the diagram of moments, and find the value of the greatest deflection.

4. A beam is acted upon by forces oblique to its direction, but in the plane of symmetry. Find the bending moment, shearing and compressive forces at any section of the beam.

Apply your results to the case of the rafters of a roof 25 feet in length, inclined to the horizon at 30°, and loaded with 4 cwt. per foot run.

5. Prove that $\frac{E I}{R} = M \quad \frac{f}{c} I$, and shew that these relations are homogeneous.

A uniform beam of length l is supported at the two ends and uniformly loaded with a weight of w lbs. for unit of length. Prove that the deflection at the centre

$$= \frac{5}{384} \cdot \frac{w l^4}{E 1}.$$

E being the coefficient of elasticity, and I the moment of inertia of the section.

6. A girder, 50 feet in length, is uniformly loaded and deflects ½ an inch, shew that the curvature is independent of the load, and find its value.

The girder having an I section, the flanges being equal, and their joint area equal to that of the web, determine the sectional area of the girder at the centre to support a uniform load of 2 tons per foot run. The depth of the girder is 5 feet, and the limiting stress 4 tons per sq. inch.

7. Describe the different modes in which a given material may fail by crushing.

8. Enunciate and prove Gordon's formula.

Find the ultimate strength of a hollow cylindrical column of cast iron 20 feet high, 16 inches external diameter, and one inch thick.

$$\left(a = \frac{1}{400}, f = 80{,}000\right).$$

10. Prove that the stress at any point of a mass of earth is the resultant of two constant stresses, and find their values.

11. Explain what is meant by the "obliquity," and find, *geometrically*, its maximum value.

Hence also deduce the ratio of a pair of conjugate stresses at any point.

12. A vertical retaining wall is strengthened by means of rectangular anchoring plates, the depths of whose upper and lower edges below the surface are respectively 18 and 22 feet. Find the holding power per foot of breadth, a cubic foot of the earth weighing 130 lbs. and its angle of repose being 30°.

Determine the depth of the centre of pressure of the plate below the surface, and the sectional area of the tie-rod.

13. State the three conditions which are necessary to secure the stability of a masonry arch.

Describe some practical method of verifying the stability of an arch, symmetrical and symmetrically loaded.

14. Explain *clearly* the difference between the "Curve of Pressure" and the "Curve of the Centres of Pressure." Can these curves be made to coincide?

15. Trace the extrados of a semi-circular arch.

THIRD YEAR.

APPLIED MECHANICS (*Second Paper.*)

WEDNESDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiner,..... .....HENRY T. BOVEY, M.A., C.E.

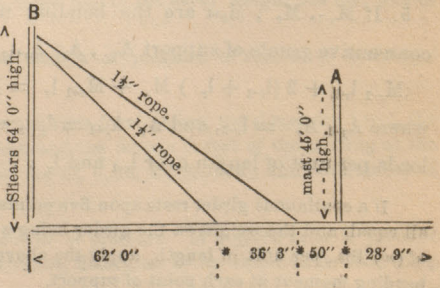
1. Two Quebec yellow pine beams, each 12′.3″ over all, 10′.6″ between the points of support and 15 ′deep by 14″ wide were tested with the following results:—

	Tons.	Cwt.	Qr.	Lbs.		
Under a load of	26	13	1	10	the beams deflected	$\frac{18}{100}$″
" "	56	19	1	10	" " "	$\frac{29}{100}$″
" "	69	13	2	8	" " "	$\frac{39}{100}$″
" "	83	1	0	0	" " "	$\frac{66}{100}$″
" "	101	19	0	0	" " "	$\frac{87}{100}$″
" "	121	19	0	0	broke down.	

Find the "constant" for the material, and also its "elasticity" by a consideration of the mean deflection.

2. A stand pipe erected at Milwaukee was 133′.0″ long and 30″ inside diameter. The plates varied from $\frac{7}{16}$″ to $\frac{1}{4}$″, as follows:—

1st section 33′.3″ long, $\frac{7}{16}$″ plate, weight 5730 lbs.
2nd section 33′.3″ long, plate, weight 4742 lbs.
3rd section 33′.3″ long, $\frac{1}{16}$″ plate, weight 3868 lbs.
4th section 33′.3″ long, $\frac{1}{4}$″ plate, weight 3020 lbs.



It was all riveted up and raised in one piece. The lower end was fixed to a beam of wood turning in bearings, and the pipe was placed on the ground with the end just over its seat, so as to be exactly in position when raised up plumb. The upper end was lifted 40″.0″ by the vertical tackle at A (the inclined ropes being also used.) The vertical tackle was then cut off and the erection completed by the two inclined ropes shewn at B.

Find the strains in the ropes, shears and pipe :—

1st. When the pipe has been raised 40″ 0″ high.

2nd. When the direction of the pipe makes an angle of 45° with the horizon.

3. The flooring of a corn warehouse rests upon beams 20 feet in length, 8 inches in breadth, 10 inches in depth, and 3′.0″ centre to centre. If the grain weigh 48½ lbs per cubic foot, find the height to which it might be heaped up on the floor.

4. A circular shaft whose diameter is (d), is acted upon by a couple ($= P\,p$) in a plane perpendicular to the direction of the shaft :—Prove that

$$P\,p = \frac{m\,\theta\,\pi\,d^4}{32} = T\,d^3$$

θ being the torsion per unit of length, and m and T constants. Show that the above relations are homogeneous, and define the exact meaning of T.

A toothed wheel, 3 feet in diameter, is fixed on the axle of a vertical water wheel, and the stress exerted at its circumference is 6000 lbs. Find the requisite diameter of the axle. ($T = 9800$ lbs., and the factor of safety $= 6$.) The distance between the toothed wheel and the water-wheel is 6 feet, find the torsion.

If the axle makes 10 revolutions per minute, determine the power transmitted, and also the greatest stress in the material of the axle.

5. If M_{r-1}, M_r , M_{r+1} are the bending moments over any three consecutive points of support A , A_r, A_{r+1}, in a continuous girder.

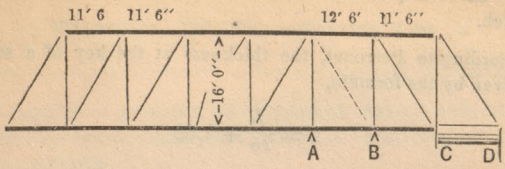
$$M_{r-1}\,l_{r-1} + 2\,(l_{r-1} + l_r)\,M_r + M_{r+1}\,l_r = \tfrac{1}{4}\{w_{r-1}\,l^3_{r-1} + w_r\,l^3_r\}$$

where $A_{r-1}\,A_r = l_{r-1}$, and $A_r\,A_{r+1} = l_r$, while w_{r-1} and w_r are the loads per unit of length over l_{r-1} and l_r .

If a continuous girder rests upon five points of support, the spans being all equal, and the weight on the girder being a uniformity distributed load of (w) lbs., per unit of length, apply the above relation to determine the bending moment at each point of support.

What condition will the fixing of one or both ends of the girder introduce?

6.



The sketch shows the truss of a counterbalanced swing bridge, supposed to be wholly supported by the turntable at A and B. The dead weight is 650 lbs. per lineal foot of the bridge, and the counterpoise consists of concrete hung in a box from the points C and D. Required the weight of the counterpoise:—

1st. Assuming that it is all carried on B.

2nd. Assuming that a portion of it is carried over on to A by the dotted bar, so that the reaction at A may = that at B, and the whole weight of the bridge be equally distributed over the turntable.

7. The principal rafters of a roof are 40 feet in length and inclined to the horizon at an 30°. The ends of each rafter are tied by rods which meet under a strut supporting the rafter at its middle point, the points of junction being also connected by a rod. The length of the strut is 4 feet, and the load on each rafter is 10 tons uniformly distributed, determine the stresses in each member of the framing.

Show by a diagram the bending moments and shearing forces at different points of the rafter.

8. Show how to find the depth at which a foundation will be stable.

9. A wall is 20 feet high and 6 feet thick. It retains earth on one side level with the top, its natural slope being 45°, and on the other side the earth has a natural slope and rises up the wall to the height of 5 feet. Will the wall stand or fall? (a cubic foot of the earth weighs 120 lbs., and of the wall 130 lbs)

Find the locus of the centres of pressure of successive horizontal layers of the wall?

10. The top of a railway cutting is level across, the slopes are 1 to 1, the width at the bottom is 30 feet, and the depths in feet of the cutting at the several sections 66 feet apart are 12, 6, 18, 10, 9, 16, 5; find the number of cubic yards to be removed.

11. The "curve of the centres of pressure" of a given arch is parallel both to the intrados and extrados, determine by an equation or otherwise, the form of the arch.

Shew how to trace the extrados of an arch with given intrados so that the "curve of pressures" might be the same for the loaded and unloaded arch.

12. According to Perronet, the thickness at the key of a semi-cirular arch is given by the formula,

$$T = \frac{R}{15} + 1.08$$

where T is the thickness, and R the radius of the intrados both in feet: Why is the formula incomplete?

13. A long culvert of circular section has a uniform slope; find to what height water must rise in the culvert, so that its velocity may be a maximum.

14. In a thin hollow cylinder R_1 and R_2 are the internal and external radii. Shew that the circumferential stress (S) is given by.

$$S \frac{P.R_1.}{R_2 - R_1.}$$

where P is the pressure of a fluid producing the stress S.

The plates of a cylindrical boiler, 5 feet in diameter, are 1½ inch thick, find to what pressure the boiler may be worked so that the tensile strain in the plates may not exceed 1½ tons per square inch of gross section.

FIRST YEAR.

FREEHAND DRAWING.

MONDAY, MARCH 31ST, AND SATURDAY, APRIL 5TH:—MORNINGS, 9 TO 12.

Examiner,.....C. H. McLEOD, Ma.E.

1. Copy on a reduced scale the drawing of a rosette which is on the blackboard before you.

2. Make any drawing from memory, and state where it is taken from.

3. Draw an original floral design for a moulding or border.

---

4. Make a drawing of the chair before you as it appears from your point of view.

SECOND YEAR.

SURVEYING.

WEDNESDAY, APRIL 2ND:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, Ma.E.

1. It is required to produce a line beyond an obstacle without the aid of an angular instrument. Apply the method of "transversals" to the solution of this problem.

2. Explain, clearly, the method of "calculating the content" by the aid of "double longitudes."

3. How may the compass be used in an angular Survey over ground where local attraction exists?

4. What is the only essential adjustment of a level?

5. Describe the adjustments which are usually applied to the *Y* level.

6. How are "stadia hairs" applied to a telescope? (*a*) Explain fully the method of using a telescope for making measurements.

7. Show a form of "field notes" for "setting out" work.

8. Describe a method of conducting a Contour Survey.

9. Describe an adjustment of the Engineer's transit which need only be applied when the instrument is to be used on "broken ground."

10. To what are drainage surveys referred as a "datum"?

11. It is required to connect two lines, which meet at an angle of 15°.30 by a 2° curve. Calculate the length of the tangents to the curve.

SECOND YEAR.

MECHANISM.

THURSDAY, APRIL 17TH:—MORNING, 9 TO 12.

Examiners,..... { H. T. BOVEY, M.A., C.E.
C. H. MCLEOD, Ma.E.

1. What is the shape given to the periphery of a pulley which is to be driven by a flat band? (*a*) Explain why the band does not slip off the pulley.

2. Show by a diagram a combination for obtaining the reversal of a machine, where the motion in one direction is not the same as in the other

3. What is meant by the velocity-ratio of two pieces? (*a*) Mention some well-known examples of a constant velocity-ratio; (*b*) of a variable velocity-ratio.

4. When two cranks are connected by a straight link, the angular velocities of the cranks, at any instant, will be inversely proportional to the segments into which the direction of the link divides the line of centres.

5. What relations must exist between the diameters, pitch and number of teeth of a pair of wheels?

6. The numbers of teeth in two wheels A and B that work together are 35 and 42. How many teeth in B will any particular tooth in A touch?

7. How are the diameters of the circles which generate the teeth of a spur wheel limited, when the wheel is to transmit considerable force?

8. For what objects are cams generally used? Illustrate your answer by a description of the "heart" shaped cam.

9. Explain what is meant by a train of mechanism. In a train of 4 axes.—(1) A wheel with 6 teeth drives a wheel with 45 teeth. (2) The second axis drives the third by a belt and pair of pulleys of 18 inches and 6 inches diameter, respectively. (3) The third axis performs a revolution in 10 seconds and the last in 2 seconds. Find the number of revolutions which the last axis will make while the first makes one revolution.

10. In an epicyclic train of three wheels the value of e is 2.5, the first wheel turns once in 10 seconds and the arm once in 5 seconds. Find the time in which the last wheel turns once; (*a*) when the first wheel and arm turn in the same direction; (*b*) in opposite directions.

11. Describe a construction for a gauge capable of measuring $\frac{1}{2500}$ of an inch.

12. Describe Watt's parallel motion. (*a*) A and B are two centres of motion, AC and BD two radius rods, CD a link connecting them which in the mean position of the system $ACDB$ is perpendicular to the rods AC, BD. Show how to find the position of the parallel point in the link CD, and also the deviation of this point from its mean position.

13. Explain the construction of the steam gauge or "indicator" and the method of using it.

14. Describe Hooke's joint for connecting two axes whose directions meet in a point, and show by an example how the angular travel of one axis may, by a graphical method, be compared with that of the other.

SECOND AND THIRD YEARS.

MATERIALS.

SATURDAY, APRIL 5TH :—MORNING, 9 TO 12.

Examiners, ... { H. T. BOVEY, M.A., C.E.
C. H. MCLEOD, Ma E.

1. Describe, briefly, a process for the manufacture of nitro-glycerine. (*a*) Mention some of the causes which render this substance extremly sensitive to friction.

2. How would you determine the quality of gun-powder (*a*) by inspec ion, (*b*) by test.

3. Distinguish between the *power* and *effect* of an explosive agent.

4. Describe the best method known to you for the excavation of hard ock under water, when the depth of rock to be removed is not great.

5. Distinguish between Granite, Syenite and Gneiss, and assign to each its especial place in construction. (*a*) What is the connection between the composition and the durability of Granite ?

6. Mention some of the uses to which the following stones may be advantageously applied :—(*a*) Serpentine, (*b*) Soapstone, (*c*) Diorite, (*d*) Oolite.

7. State the principal characteristics of Sandstone. (*a*) Why is it advisable to build sandstone " on its natural bed ?

8. Explain what is meant by the following :— Header, Stretch Coursed rubble masonry, Random Courses. (*a*) When is it expedient to use Ashlar masonry ?

9. How would you be influenced, in the selection of a building stone, by the character of the climate to which it is to be exposed ?

10. What is the composition of (*a*) fire-brick (*b*) brick for ordinary building purposes. In what respect does the burning of these differ.

11. Describe and illustrate a machine for moulding brick.

12. What is meant by the "Bond " of brickwork ? Distinguish between English and Flemish Bond, and illustrate your answer by a sketch. (*a*) What evil accompanies the introduction of iron into brickwork for the purpose of strengthening it ?

13. What is the test applied to bricks and stones ? Why are they so tested ? (*a*) What information does the " rupture " of Materials furnish.

14. When is lime said to be " hydraulic " ? (*a*) Write out a specification for lime mortar.

15. Describe the process of "tempering" clay. How would you discover the presence of an excess of clay in a sample of Portland Cement?

16. What is the most durable paint for iron work, which is exposed to the weather. (*a*) Describe a method of preparing the surface of iron for the reception of a paint.

17. How would you provide for the protection of (*a*) the inside, (*b*) the outside, of iron water pipes.

18. Name the materials exhibited and state a use for each.

SECOND YEAR CIVIL ENGINEERING, AND THIRD YEAR MINING.

DESCRIPTIVE GEOMETRY.

MONDAY, MARCH 31ST:—MORNING, 9 TO 12.

Examiner,.....C. H. McLEOD, Ma.E.

1. Project orthographically:—

(*a*) A right prism whose base is a regular pentagon of 1 in. side which penetrates a sphere. The diameter of the sphere is 2.4 in. The axis of the prism is excentric to the sphere.

(*b*) A regular hexagonal prism, the base of which makes angles of 45° and 60° with the horizontal and vertical planes, respectively, and a side makes an angle of 60° with the vertical.

(*c*) A screw bolt, the section of the thread of which is a square. The diameter of the bolt is two inches, and the pitch of the thread half an inch.

(*d*) Develope one complete turn of the helical surface in question (*c*.)

2. A right cone is cut by a plane parallel to its axis. Show the true shape of the section.

3. Two sides and the contained angle of a spherical triangle are, respectively, 30°, 45° and 60°. Find the remaining side and angles.

4. Project isometrically, a house, the ground plan of which is T shaped. The pitch of the roof is 45°. Remove a portion of the wall so as to show the interior.

THIRD YEAR.

DESCRIPTIVE GEOMETRY.

MONDAY, MARCH 31ST :—MORNING, 9 TO 12.

Examiner,.....C. H. McLEOD, Ma.E.

1. The angles of a spherical triangle are 60°, 75° and 80°. Find the sides.

2. Project orthographically a cone having a base 1½ in. in diameter and a slant height of 3 in., which stands on a square plinth of 2 in. side and 1 inch deep.

(*a*) Find the shade and the shadow on the horizontal plane caused by parallel rays which make angles of 30° and 45° with the horizontal and ertical planes respectively.

3. Project perspectively :—

(*a*) The figure in question 2 and its shade and shadow as in question 2 (*a*), when one side of the plinth is parallel to the picture plane and on the right of the spectator.

(*b*) A cup, in the form of a frustrum of a cone, which stands on a book where one end of the book makes an angle of 30° with the picture plane. Show the shade and shadow caused by rays falling as in question (3).

THIRD YEAR.

ASTRONOMY.

MONDAY, APRIL 7TH :—MORNING, 9 TO 12.

Examiner,.....C. H. McLEOD, Ma.E.

1. Find the apparent altitude of a Star whose declination is N. 16° 16 when it is exactly east of an observer in latitude 45° 31′ N.

2. In obtaining the meridian from equal altitudes of the sun, prove that the correction to be applied to the mean direction is

$$\left(=\text{Sec. lat. x cosec. } \frac{\text{Hour angle}}{2}\right)\left(\frac{\text{change in declination.}}{2}\right)$$

3. Convert 3 h. 34 m. 45.5 sec. p.m., mean solar time at Montreal, January 20th. 1879, into sidereal time.

4. On August the 20th. 1879, *Altair* was observed to pass the meridian at Montreal, at 9 h. 57 m. 30 sec. p.m., by mean time clock. Find the error of the clock.

5. The difference of the zenith distances of a north and south star was observed to be 50″.29, the distance of the north star being the greatest. The declination of the north star was 47° 15′ 40″.7, and of the south star 40° 16′ 19″.21. Calculate the latitude of the place.

6. Describe the method of determining latitude by transits across the prime-vertical.

(*a*) Find an expression for the latitude when the transit is not in the true prime-vertical.

7. Explain fully the principle upon which the method of obtaining longitude by Moon-culminating stars, is based.

THIRD YEAR.

SURVEYING.

MONDAY, APRIL 7TH :—AFTERNOON, 2 TO 4.

Examiner,..... .C. H. MCLEOD, Ma. E.

1. It is required to unite two straight lines AB, DC by a curve which is to spring from a point M between A and B. *M*B is 100 ft. and BD 240 ft in length; the angle ABD measures 150° and BDC 160°. Calculate the degree of curvature and the length of the curve.

2. The sum of the angles of a spherical triangle ABC is found to exceed their calculated value by 2″.4. The angle A is the mean of 20, B of 25, and C of 30 observations. Calculate the correction to be applied to each of the angles.

3. Could a Geodesic Survey be conducted without a measured base? Prove the truth of your answer.

4. Calculate the latitude and longitude of a point which bears N. 75° E. and is 200 miles distant from latitude 45° 31′ N. and longitude 73° 39′ W.

FIRST YEAR.

SOLID GEOMETRY AND CONIC SECTIONS.

THURSDAY, APRIL 3RD :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, B.A.

1. If two straight lines meeting one another are respectively parallel to two other straight lines meeting one another, they will include equal angles.

2. To two straight lines not in the same plane one common perpendicular can be drawn, and this will be the shortest line joining the given lines.

3. In any trihedral angle the sum of any two of its faces is greater than the third.

4. If two pyramids are on equal bases and of equal altitude, the sections of them made at equal distances from the bases are equal.

5. Find the number of cubic feet in the trunk of a tree 70 feet long, the diameters of the ends being 10 and 7 feet.

6. Find the volume of a triangular pyramid each of whose edges is 12 feet.

7. Prove that the surface of a sphere is $4 \pi r^2$, where r is the radius.

8. How much canvas will make a conical tent 11 feet in height, and 12 feet in diameter at the base?

9. Define the ellipse, parabola, and hyperbola. What are the asymptotes of the hyperbola?

10. In the parabola, the subtangent is twice the abscissa, and the latus rectum is twice the subnormal.

11. From a point outside the parabola, draw a pair of tangents to the curve.

12. A diameter of a parabola bisects all chords parallel to the tangent at its extremity.

13. The area of the segment of a parabola cut off by any chord is two thirds of the area of the triangle formed by the chord and the tangents to the parabala at its extremities.

14. The sum of the focal distances of a point on the ellipse is constant.

FIRST YEAR.

ALGEBRA AND TRIGONOMETRY.

TUESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, B.A.

1. Resolve $x^2 + 8x + 7$ and $a^2 x^2 - 3 a^3 x + 2 a^4$ into elementary factors, and extract the fourth root of $1 - 4x + 6x^2 - 4x^3 + x^4$.

2. Find the G.C.M. of $2a^4 + a^3 b - 4a^2 b^2 - 3ab^3$ and $4a^4 + a^3 b - 2a^2 b^2 + a b^3$.

3. Divide $x^{-1} - y^{-1}$ by $x^{-3} - y^{-\frac{1}{3}}$ and show that $3\sqrt{75}$ and $\sqrt[3]{\frac{1}{10}}$ are similar surds.

4. Form the equations of which the roots are 3, -5; and $-7, ^2$.

5. Solve the equations:—

(1) $$\frac{x-3}{x+2} = \frac{1}{2} + \frac{x-3}{2x-1}$$

(2) $$\left.\begin{array}{c} ax + by = c^2 \\ \frac{a}{b+y} - \frac{b}{a+x} = 0 \end{array}\right\}$$

(3) $$\frac{2}{x+\sqrt{2-x^2}} + \frac{2}{x-\sqrt{2-x^2}} = x$$

(4). $$\frac{5x}{x+4} - \frac{3x-2}{2x-3} = 2$$

6. A person bought a certain number of sheep for \$94; having lost seven of them he sold one-fourth of the remainder at prime cost for \$20. How many sheep had he at first?

7. Explain carefully what is meant by positive and negative angles. How is the circular measure of an angle found? Find the C.M. of the angle 24° 13′.

8. Find the sine, cosine and tangent of 30°.

9. Prove the following relations:

(1) $sec\,^2a.\ cosec\,^2a. = sec\,^2a. + cosec\,^2a.$

2) $\frac{sec\,\theta - 1}{sec\,\theta} = versin\,\theta,$

(3) $(cosec\,\theta - cot\,\theta)^2 = \frac{1 - cos\,\theta}{1 + cos\,\theta},$

(4) $sin\,(\pi - A) = sin\,A,$

(5) $1 + cos\,A = 2\,cos^2\frac{A}{2},$

(6) $\frac{1 - cos\,A}{sin\,A} = tan\,\frac{A}{2}$

10. Prove that $\sin\frac{A}{2} = \sqrt{\frac{(s-b)\ (s-c}{bc}}$

11. A tower stands by a river. A person on the opposite bank finds its elevation to be 60°; he recedes 40 yards in a direct line from the

tower, and there finds the elevation to be 50°. Find the breadth of the river.

12. A yacht is 5.8 miles from the mouth of a harbour, bearing S.b.W. in order to reach the harbour she is obliged, by reason of a southerly wind, to make two courses, the first E.S.E., the other S.W. b. W.; calculate the distance run on each course, and the whole time, the rate of sailing being 7 knots.

FIRST YEAR.

MATHEMATICS—GENERAL PAPER.

SATURDAY, APRIL 19TH:—MORNING, 9 TO 1.

Examiner,.....GEO. H CHANDLER, B.A.

1. In what time will $674.30 amount to $1,000 at 8½ per cent. simple interest?

2. Divide a given straight line into two parts, so that the rectangle contained by the whole and one part may be equal to the square on the other part.

3. The rectangle contained by the diagonals of a quadrilateral inscribed in a circle is equal to the sum of the rectangles contained by the opposite sides.

4. Given the base and vertical angle of a triangle, find the locus of the vertex.

5. In a complete quadrilateral each of the three diagonals is divided harmonically by the other two.

6. The lateral surface of the frustum of a right cone is equal to its slant height multiplied by the circumference of the circular section equidistant from its parallel faces.

7. Three men have equal shares in a grindstone 3 feet in diameter, and they agree not to grind down more than 9 inches in all. What part of the diameter may each man grind down?

8. Assuming that the surface of a sphere is $4\ \pi r^2$, prove that the volume is $\frac{4}{3}\ \pi r^3$.

9. The square of the ordinate of a parabola is equal to the latus rectum multiplied by the abscissa.

10. If a parabola touches three sides of a triangle, its focus lies on the circle circumscribing the triangle.

11. Reduce the fraction

$$\frac{x^3 - 3x + 2}{x^3 + 4x^2 - 5}$$

to its lowest terms.

12. What is a logarithm? Prove that the logarithm of the quotient of two numbers is equal to the difference of the logarithms of the numbers.

Given log. $5 = 0.6989700$, find the logarithm of $\sqrt[7]{6.25}$.

13. Find x from the equation:—

$$\left(\frac{3}{4}\right)^x = \frac{1.}{3}$$

14. Explain clearly what is meant when the sign $-$(*minus*) is applied to a symbol representing a line or an angle.

15. Prove that:—

$$Cos\,(A + B) = cos\,A\,cos\,B - sin\,A\,sin\,B.$$

16. Prove the relations:

$$\frac{Tan^2 x}{1 + tan^2 x} = sin^2 x,$$

$$Sin\,2\theta = \frac{2\,tan\,\theta}{1 + tan^2\theta}.$$

17. At what distance on the earth's surface should two mountains, three miles and two miles high respectively, be placed, in order that the summit of each may be just visible from the summit of the other?

18. Each of two ships, which are a mile apart, finds the angles subtended by the other ship and a fort to be respectively 35° 14′ and 42° 12′. Find the distance of each from the fort.

SECOND YEAR.

MECHANICS.

TUESDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, B.A.

1. What are the fundamental laws relating to friction? What is meant by the angle of repose, and how is it determined experimentally?

2. A rough plane is inclined at 30° to the horizon. A weight W is placed on it, and it is found that a force $\frac{3}{4}$ W acting parallel to the plane will just move the weight up the plane. Find the coefficient of friction.

3. Find the least force which will drag a body of weight W along a horizontal plane, and the angle which the direction of the force makes with the plane.

4. How would you define a fluid? Give some examples of the inertia of fluids.

5. The breadth of a water passage closed by a pair of gates is 10 feet, and its depth is 6 feet. The hinges are placed at one foot from the top and bottom. Find the strain on each lower hinge when the water rises to the top of the gates on one side.

6. A piece of wood weighs 4 lbs. in air, and a piece of lead weighs 4 lbs in water. The lead and wood together weigh 3 lbs. in water. Find the specific gravity of the wood.

7. Describe the construction and use of a siphon gauge.

The air supplied by a fan supports a column of water 10. 4 inches high in a siphon gauge. What is the pressure of the air?

8. What is meant by the absolute zero of temperature? Prove that the product of the volume and pressure of any gas is proportional to the absolute temperature.

9. A spherical bubble of air ascends in water; at a depth of three feet its diameter is 0.08 in., what is its diameter when it is one foot from the surface?

10. Describe the construction of an air-pump.

If the volume of the receiver of an air-pump be 10 times that of the barrel, show that the density of the air in the receiver will be reduced one-half before the end of the eighth stroke.

11. To what distance, measured on a horizontal plane, will a shell be projected, which is discharged with a velocity of 520 feet per second, and at an elevation of 36°?

12. Prove that the free surface of a liquid rotating uniformly about a vertical axis is a paraboloid of revolution.

SECOND YEAR.

ANATYICAL GEOMETRY AND GEOMETRICAL CONICS.

WEDNESDAY, APRIL 16TH:—MORNING, 9 TO 12.

Examiner, ...G. H. CHANDLER, B.A.

1. Trace the geometrical figures represented by the equations :

$$y = 3x + 2.$$
$$y^2 + x^2 = 4$$
$$\frac{x^2}{9} - \frac{y^2}{4} = 1.$$

2. Trace with the same axes the curves :

$$y^2 = 4x$$
$$y^2 = \frac{4}{27}(x - 2)^3$$

Show that these curves intersect at a point where $x = 8$. Where do they cut the axes of co-ordinates?

3. Prove that an equation of the first degree in x and y always represents a straight line.

4. Find the equation of the straight line joining the points $(3, -2)$ and $(-5, \frac{3}{2})$.

What angle does this line make with the axis of x?

5. Determine the equation of a straight line which makes intercepts a, and b, respectively, on the axes.

6. Find the length of the perpendicular from the point (1, 6) on the line $3x + 2y = 4$.

7. Show that $3x^2 + 3y^2 - 5x + 3y = 2$ is the equation of a circle, and find its centre and radius.

8. Prove (by the method of projections, or otherwise) that the equation of the ellipse is

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1.$$

9. What are conjugate diameters in the ellipse? If a' and b' are conjugate semi-diameters, prove that $a'^2 + b'^2 = a^2 + b^2$.

10. The perpendicular from the centre on the tangent of an ellipse $= \frac{ab}{b'}$.

11. Show that the curve of which the equation is $y^2 - 4xy + 4x^2 + 2y - 7x - 1 = 0$ is a parabola, and find at what points it crosses the axes of co-ordinates.

12. Assuming the equations of the asymptotes of the hyperbola, $\frac{x}{9} - \frac{y^2}{4} = 1$ show that they approach nearer and nearer to the curve without ever meeting it.

13. Trace the geometrical locus represented by the equation $y = tan\ x$ between $x = 0$ and $x = 3\pi$.

How many asymptotes has the curve between these limits?

14. From a point outside the parabola draw a pair of tangents to the curve.

15. The diameter of a parabola bisects all chords parallel to the tangent at its extremity.

SECOND YEAR.

MATHEMATICS, &c.—GENERAL PAPER.

SATURDAY, APRIL 19TH :—MORNING, 9 TO 1.

Examiner,.....GEO. H. CHANDLER, B A

1. If the diameter of a cylindrical well be 5 ft. 2 in., and its depth 27 ft. 6 in.; how many cubic yards of earth were removed in order to form it.

2. If the vertical angle of a triangle be bisected by a straight line which also cuts the base, the segments of the base shall have the same ratio as the sides of the triangle have to one another.

3. Solve the equations:—

$$a \times x - \sqrt{2\,a\,x + x^2} = b,$$

$$x - \frac{x^3 - 8}{x^2 \times 5} = 2,$$

$$\left(\frac{3}{4}\right)^x = \frac{1}{3}$$

4. Prove the following relations:

$$2 \sin^2 \frac{A}{2} = 1 - \cos A$$

$$\frac{\tan \frac{(A\ B)}{2}}{\tan \frac{(A - B)}{2}} \times \frac{a\ b}{a - b}.$$

5. In order to ascertain the position of a buoy, two points A and B are taken on the coast, a mile and a half distant from each other. At A, the angle which the buoy makes with B is 54° 32′; at B, the angle which it makes with A is 39° 15′; what are the distances in yards of the buoy from the points A and B?

6. If two chords of a parabola PP', QQ' intersect in O, the rectangles $PO.\ P'O$ and $QO.\ Q'O$ have the same ratio as the parameters of the diameters which bisect the chords.

7. Find the length of the tangent from the point (3, 2) to the circle:

$$3 + x\omega^2\ 3y^2 - 5x\ 3y = 2.$$

8. Show that

$$14x^2 - 4xy + 11y^2 = 60.$$

is the equation to an ellipse.

Trace the curve, and hence find approximately the length of its axis major.

9. The area of the ellipse $= \pi a b$, where a and b are the semi-axes major and minor.

10. What is the distinction between linear and angular velocity?

Prove the parallelogram of linear velocities.

11. A force of 40 lbs. acting parallel to an inclined plane supports 56 lbs on the plane. The base of the plane being 340 feet, find its length and height.

12. A cylinder is placed with its base on a rough inclined plane, the inclination of which is gradually increased. The height of the cylinder is 30 inches, the diameter of its circular base is 5 inches, and the co-efficient of friction is 0.18. Determine whether the initial motion of the cylinder relatively to the plane will be one of sliding or tumbling over.

13. Find the centre of gravity of a triangular pyramid.

14. A ship sailing from the sea into a river sinks two inches, but after discharging 40 tons of her cargo, rises an inch and a half; determine the

weight of the ship and cargo together, the specific gravity of sea water being 1.025, and the horizontal section of the ship for two inches above the water being invariable.

15. A cylinder 20 feet long is half filled with water and inverted with the open end just dipping into a vessel of water. Find the altitude of the water in the cylinder.

16. A cubic foot of air at a temperature of 100° F., and under a pressure of 29½ inches of mercury, is cooled down to 40° F., and compressed by an additional 10½ inches of mercury. Find the volume.

17. A body of weight W moves with velocity v in a circle of radius r, prove that the centripetal force is

$$\frac{W v^2}{g r}.$$

THIRD YEAR.

MECHANICS.

FRIDAY, APRIL 4TH :—MORNING, 9 to 12.

Examiner, ... G. H. CHANLER B. A.

1. Show that couples in different planes may be compounded by the parallelogrammic rule.

2. Find the conditions of equilibrium of a system of forces acting on a rigid body in any directions.

3. Find the centre of gravity of a thin rod bent into the form of a circular arc.

4. The co-ordinates of the centre of gravity of the figure bounded by the axis of x, two lines parallel to the axis of y, and the curve $y=f(x)$ are

$$\bar{x} = \frac{\int x\, y\, dx}{\int y\, dx}, \quad \bar{y} = \tfrac{1}{2} \frac{\int y^2\, d\, x}{\int y\, d\, x}$$

5. Find the centre of gravity of a parabolic spandrel.

6. A hemispherical cup is filled with water and placed with its base vertical. Compare the pressures on the plane and curved surfaces.

7. Explain a general method for determining the centre of pressure of a plane are a immersed in any liquid.

Find the centre of pressure of a triangle whose base is horizontal and vertex in the surface of the fluid.

8. Find the moment of inertia of a sphere (*a*) about a diameter and (*b*) about a tangent line.

9. The kinetic energy of a body rotating about a fixed axis with angular velocity ω is

$$\tfrac{1}{2}\,\omega^2\,I$$

where I is the moment of inertia of the body with respect to the axis.

10. An engine of 35 horse-power makes 20 revolutions (*i.e.*, up and down strokes) per minute, the diameter of the flywheel is 20 ft., and its weight 20 tons, determine approximately the number of units of work accumulated in it. If the work done during half a revolution were lost, determine what part of the angular velocity would be lost by the flywheel.

11. The time of a small oscillation of any body moving about an axis is

$$\pi\sqrt{\frac{k^2+h^2}{gh}}$$

where k is the radius of gyration of the body about an axis through its centre of gravity parallel to and at a distance h from the axis of suspension.

12. A pendulum consists of a brass sphere 4 inches in diameter suspended by a steel wire $\frac{1}{16}$ of an inch in diameter; the centre of the sphere is 40 inches below the point of support, determine the number of oscillations it will make in a day, and what number would be obtained on the supposition that the centre of oscillation coincides with the centre of the sphere. (Sp. gr. of steel=7.82 ; do. of brass= ·8.39)

THIRD YEAR.

MATHEMATICS, &c.—GENERAL PAPER

SATURDAY, APRIL 19TH :—MORNING, 9 TO 1.

Examiner,.....GEO. H. CHANDLER, B.A.

1. Similar triangles are to one another in the duplicate ratio of their homologous sides.

2. Find the value of $\sqrt[3]{.01}$ to four places of decimals.

3. Find two numbers such that their sum, product, and the difference of their squares may be all equal.

4. Prove the expansion of sin x in terms of x, viz.:

$$sin\ x = x - \frac{x^3}{1.2.3} + \frac{x^5}{1.2.3.4.5} - \&c.$$

5. State Napier's rules for the solution of right-angled spherical triangles and give the proof in the case in which one side is taken for middle part.

6. Find the equation of the circle of which the radius is 6 and the co-ordinates of the centre $(2, -3)$.

What intercepts does this curve make on the axes?

7. If $y = sin\ (sin\ x)$, prove that

$$\frac{d^2y}{dx^2} + \frac{dy}{dx}\ tan\ x + y\ cos^2 x = 0.$$

8. Find the following integrals:

$$\int a\ x^{\frac{5}{2}}\ dx,$$

$$\int (a\ x^3 + b)^2 x^2\ dx,$$

$$\int \left(\frac{1}{x} + e^x\right) dx,$$

$$\int sin^2\ \vartheta\ d\vartheta$$

9. The curve $y = f(x)$ revolves round the axis of x. Prove that the volume of the solid thus generated is

$$\pi \int y^2\ dx.$$

10. Trace the curve $y = sin\ x$ between the limits $x = o$ and $x = \pi$. Find the volume of the solid formed by the revolution of this curve round the axis of x.

State the "prismoidal formula," and determine whether it will give a correct solution of this problem.

11. A solid hemisphere of radius r, and a solid cone of height $\sqrt{3}\ r$, have their bases equal, and are united together, base to base. The solid thus formed floats in water with its spherical surface partly immersed; show that the equilibrium is neutral.

12. A cylinder is placed with its base on a rough inclined plane, the in-

clination of which is gradually increased. The height of the cylinder is 30 inches, the diameter of its circular base is 5 inches and the co-efficient of friction 0.18. Determine whether the initial motion of the cylinder relatively to the plane is one of sliding or tumbling over.

13. Find the centre of gravity of a hemispherical shell, the radii of which are r and r'.

14. Prove that the radius of gyration of a circular disc about a tangent is $\frac{5}{4} r^2$.

Find the time of the small oscillations which the disc makes about th tangent.

15. What is the difference between potential and kinetic energy? Explain the transformation of each kind of energy into the other which takes place in the motion of a pendulum.

16. Two balls, each weighing 100 lbs., are placed at the ends of a horizontal bar 5 feet from the centre of motion. The lever imparts motion to a vertical screw of 2 inches pitch, working a punch. What resistance will the punch overcome if the balls have a velocity of 10 feet per second at the moment of impact, and the punch is brought to rest after traversing a distance of $\frac{1}{10}$ of an inch.

MINING COURSE.

THIRD YEAR.

MINING.

THURSDAY, APRIL 24TH:—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. How do the thickness and inclination of a lode influence the selection of a method for working it?

2. In prospecting any region for useful minerals, what are the principal points to be noted?

3. In cases of faulting by what facts may the miner commonly be guided in searching for the continuation of a seam or lode?

4. Describe the operations involved in Hydraulic Mining and Sluicing as carried on in California.

5. Describe fully all the parts and the working of a Plunger Lift.

6. Give a sketch of the different methods employed for lighting mines.

7. Describe the raising of minerals in guided cages and the precautions taken against accident in case of breakage of the rope.

8. Point out the relative advantages of vertical and underlie shafts, and state by what points the miner should be influenced in the choice of a position for a shaft.

9. Give fully the operations involved in ordinary blasting.

10. Explain the following terms:—Stockwork, basset, hade, gossan, kibble, water-balance and sollar.

NOTE.—The answers must be illustrated by free-hand drawings.

METEOROLOGY.

SATURDAY, MARCH 22ND:—MORNING, 9 TO 11.

Examiner,.....C. H. MCLEOD, Ma. E.

1. Explain the construction of the following instruments:—

(*a*) A self-registering thermometer for minimum temperatures.

(*b*) A wind-vane with electric connections.

(*c*) A rain gauge and its "measuring glass."

2. Give a classification of Clouds, and describe each class.

3. What is the usual construction of hail stones?

4. Why should thermometers be "stem graduated"?

5. Describe in detail the operation of graduating a thermometer.

6. Define dew-point. (*a*) How may it be determined experimentally?

7. A mercurial barometer was observed to read 29.743 at an elevation of 187 feet above sea level; the temperature of the mercury being 50° Fah. and the temperature of the air 60°. The index correction to the barometer was + ·024. What would be the corrected reading of a barometer observed at the same instant of time, at sea level, if the temperature of its attached thermometer stood at 32° Fah.?

FACULTY OF MEDICINE.

SESSIONAL EXAMINATIONS, 1879.

FITST YEAR.

ELEMENTARY BOTANY.

SATURDAY, DECEMBER 14TH:—9 TO 12 A.M.

Examiner, ...J. W. DAWSON, L.L.D., F.R.S

1. Explain the terms Protoplasm and Nucleus, and the relation of these to the structures of the vegetable cell.

2. Describe the various kinds of ordinary Vascular Tissue, with their mode of formation and uses.

3. Describe the appearance under the microscope of Woody Fibres, Stings of Nettles, and Raphides.

4. State the composition, mode of occurrence and uses of Chlorophyll, as found in the cells of the leaf; and explain the action of the Parenchyma containing Chlorophyll.

5. Describe the structures in the wood of an Exogen.

6. What are Vascular, as distinguished from Cellular, plants?

7. Explain the normal structure and functions of the Root, and state how Rhizomata and Corms are distinguished from roots.

8. Explain fully the following terms: Tristichous, Parasitic, Acrogenous, Prosenchyma, Internode.

9. State how leaves are classified with reference to their nervation, general form and modifications of margin.

10. What are the nature and uses to the plant of Root-fibrils, Laticiferous Vessels, Cyclosis, Cotyledons?

FIRST YEAR.

BOTANY.

SATURDAY, MARCH 15:—9 TO 12 A.M.

Examiner,.....J. W. DAWSON, LL.D., F.R.S., &c

1. State the nature and manner of assimilation of that portion of the food of Plants derived from the Atmosphere.

2. What are the relations of Phosphates, and Potash to the growing plant? State some practical facts.

3. Explain Coalescence and Adnation of the parts of the flower, with examples.

4. Explain the structure and functions of the Stamen and Pistil.

5. Explain the terms Coma, Pappus, Sporangium, Achenium, Bract, Sepal.

6. Describe the parts concerned in the fertilization of a Fern or Moss, and state how they differ from those in Phænogams.

7. Describe the parts seen in an Exalbuminous Dicotyledonous Seed, and how they correspond with those of the ovule.

8. Describe the principal forms of Indeterminate Inflorescence.

9. Define the Classes of the Vegetable Kingdom, and give an example of each.

10. In what Natural Families do we find Siliques, Didynamous Stamens Labiate Corollas, or Pappus-bearing Achenes? Describe one of these structures.

11. Refer the specimens exhibited to their Classes and Orders, with your reasons for so referring them.

FIRST YEAR.

INSTITUTES OF MEDICINE.

FRIDAY, MARCH 21ST:—10 TO 12 A.M

Examiners, ...PROFESSORS { DRAKE, M.D. / OSLER, M.D

1. Describe ciliated epithelium, stating the localities where it is found and its uses.

2. The structure of bone.

3. Describe what is seen in a slide of blood without the addition of any re-agent.

4. State the differences between arterial and venous blood.

5. The events which correspond with the first sound of the heart.

6 What variations are met with in the pulse?

7. How is inspiration effected?

8. The changes in the air in respiration.

9. How is starch digested?

10. Describe a microscopic section of the ileum.

FIRST YEAR.

MATERIA MEDICA.

Examiner,..... PROF. WRIGHT, M.D., L.R.C.S.E.

1. Name the plants (and their families) from which are procured Ipecacuanha, Jalap, Kino, Elaterium and Colocynth.

2. Describe the mode of preparing the several Valerianates.

3. Relate the composition of each of the mechanical compounds of mercury.

4. State the differences between Laurel and Borneo Camphor.

5. How might metallic Arsenic be got in testing?

6. Mention how you would detect the adulterations of impure Potassium Iodide.

FIRST YEAR.

ANATOMY.

FRIDAY, MARCH 21ST:—3 TO 5 P.M.

Examiner,..... .....PROFESSOR W. E. SCOTT, M.D.

1. Describe the Scapula, and name the muscles attached to it.

2. How many true vertebræ are there, and how are they divided?

3. What are the ligaments of the vertebral column?

4. Name the muscles of the following regions, Anterior Humeral.
" Femoral.
" Tibial.
" Thoracic.

5. How is the alimentary canal divided? Give the situation and uses of the liver, spleen and pancreas.

6. What portions of the alimentary canal are not completely surrounded by the peritoneum?

FIRST YEAR.

CHEMISTRY.

MARCH 20TH.

Examiners,.....PROFESSORS { R. CRAIK, M.D. / G. P. GIRDWOOD, M.D.,

1. Explain *conduction*, *convection* and *radiation* of heat.

2. Give a statement of the three laws of chemical combination by weight and give an example to illustrate each law.

3. Write the formulæ in symbols for the following substances, viz: *water*, *carbon dioxide*, *nitric acid*, *sulphuric acid* and *marsh gas*.

M. D., C. M., PRIMARY EXAMINATION, 1879.

MATERIA MEDICA.

THURSDAY, MARCH 20TH.—10 TO 12 A.M.

Examiner,.....PROFESSOR WRIGHT, M.D., L.R.C.S.E.

1. Give the way to make Hydrochlorate of Morphia and the chief tests for its recognition.

2. Describe Atropia shewing how it differs from Strychnia and in what it resembles Hyoscyamia.

3. How would you know if Chloroform were pure? If impure, what might be the causes, and how might they be detected?

4. Relate the effects in varying doses of Opium upon, the gastro-intestinal functions; 2. the respiratory organs; 3. the circulation, and 4. the cerebro-spinal system.

5. Mention some remedies suitable for Epilepsy, and the other uses to which they might be applied.

6. State the composition and dose of each of the officinal preparations that owe their activity to an Acid.

INSTITUTES OF MEDICINE.

FRIDAY, MARCH 21ST:—10 TO 12 A.M.

Examiners,.....PROFESSORS { DRAKE, M.D. / OSLER, M.D.

1. The properties of the members of the Carbo-hydrate group of proximate principles.

2. In discharges from the various orifices of the body, what varieties of epithelium may be met with?

3. The coagulation of the blood (briefly).

4. Sounds of the heart,—site, character, and causes.

5. Respiratory changes in the blood.

6. Action of the pancreatic juice.

7. The structure of a liver lobule.

8. The origin and characters of urea.

9. The innervation of the heart.

10. The functions of the vaso-motor nerves. What effects might follow pressure of a tumor on the cervical sympathetic?

11. Describe the structures which result from changes in the Graafian follicles after rupture.

12. The formation of the layers of the blastoderm. What organs and tissues are formed from each layer?

ANATOMY.

FRIDAY, MARCH 21ST:—3 TO 5 P.M.

Examiner, ...PROFESSOR W. E. SCOTT, M.D.

1. What muscles of the back are inserted into the superior extremity? Give also their origins, and enumerate the muscles of the fourth layer of the back.

2. What nerves enter into the formation of the sacral plexus? Give its situation, relations and branches.

3. Give the origin, course, relations and branches of the following arteries, viz: Internal carotid, opthalmic, radial, splenic and superior hæmorrhoidal.

4. What are the boundaries of the third ventricle of the brain?

5. What are the coverings of the following kinds of hernia: oblique disect and femoral:

6. What nerves supply the following muscles: anconeus, tensor vagina femoris, adductor magnus and gastrocnemius.

M.D., C.M., FINAL EXAMINATION, 1879.

OBSTETRICS.

MONDAY, MARCH 24TH.

Examiner,..... .....PROFESSOR D. C. MACCALLUM.

1. Describe the relations of the Head of the Child to the Pelvis when it presents in the Left Fronto-Cotyloid Position, and the manner in which it descends through the Pelvis.

2. Give separately the characters of a Vertex, a Face, a Breech, and a Shoulder Presentation.

3. Describe the treatment of a Simple Shoulder Position, and of one firmly impacted in the brim of the Pelvis.

4. What precautions are to be adopted to prevent Postpartum Hæmorrhage, and how would you treat this complication if it should occur?

5. Describe the Planes and Axes of the pelvis, and mention the points of obstetric importance connected with the Sacrum and Ischium.

6. Describe the different morbid conditions of the Placenta which may give rise to premature expulsion of the Ovum.

7. Give the symptoms and diagnosis of Ascites complicating pregnancy —its influence on the progress of Gestation, and on labour.

8. What are the best means to adopt for the purpose of relieving Accidental Rigidity of the Os Uteri?

9. Given a head prevented from entering the pelvis by contraction of the brim, how may the delivery of the child be effected?

10. Mention the causes of Hemorrhage from the Umbilicus in young infants, and the treatment you would adopt to arrest it.

11. Under what circumstances is Gastro-Hysterotomy justifiable; how is it to be performed; and what modern operation has been proposed in its stead?

MEDICAL JURISPRUDENCE.

SATURDAY, DECEMBER 21ST:—10 TO 12 A.M.

Examiner,.....PROFESSOR WILLIAM GARDNER, M.D

1. Sketch the main features of a case of General Paralysis of the Insane. Give also the prognosis and terminations.

2. Describe the Hydrostatic Test. What are the objections to it as a tes of live-birth? Enumerate the other signs of live-birth.

3. What substances expelled from the female genital organs may be confounded with the products of conception? Give the distinctions.

4. How would you distinguish blood-stains from red fruit and flower stains, spots of rust and lemon-juice on weapons, and iron-moulds on linen?

5. What articles of food are occasionally poisonous? Under what conditions are they known to be so? What are the symptoms?

6. Give the symptoms and treatment of Strychnia-poisoning.

PRACTICE OF MEDICINE.

MONDAY, MARCH 24TH:—3 TO 5 P.M.

Examiner,.....PROF. HOWARD, M.D.

1. Describe the treatment of a severe case of Scarlatina, and the measures to be taken to prevent its communication.

2. What are the points requiring attention during convalescence from Typhoid Fever, Measles, and acute Endocarditis?

3. Mention the important complications of Acute Rheumatism, and sketch the treatment of that disease.

4. What are the physical signs of Capillary Bronchitis? How could you determine that Pulmonary collapse had occurred?

5. State the circumstances diagnostic of Fibroid Phthisis.

6. With what constitutional disease are Infantile Convulsions most frequently connected, and how should that disease and the convulsions be treated?

7. Describe the morbid anatomy of Tuberculous Meningitis.

8. Give the diagnosis between Cirrhosis of the Liver and Amyloid Liver.

.How would you recognize Uræmic Coma, and treat it?

10. To what may a systolic murmur of maximum intensity at the left nipple be due, and how can you determine whether regurgitation obtains or not?

11. What are the causes of Cerebral Hemorrhage?

12. Sketch the clinical features of Infantile Paralysis, and state the nature and seat of its lesion.

THIRD YEAR.

PRACTICE OF MEDICINE.

MARCH 24TH:—3 TO 5 P.M.

Examiner,.....PROF. HOWARD, M.D.

1. Define Zymotic and Constitutional diseases, and enumerate the more important ones under their respective classes.

2. What are the causes of Typhoid, Typhus, Relapsing and Intermittent Fever?

3. Describe the eruptions of Scarlet Fever, Measles and Small-pox, stating the time and order of their appearance and disappearance.

4. Describe the morbid anatomy of Rickets.

5. Define the terms quotidian, tertian and quartam—intermission—remission—"interval."

6. Sketch a paroxysm of Ague, and name the remedies for the disease and their doses.

7. What are the more important sequelæ of Scarlatina and of Diphtheria?

8. What are the symptoms of Anæmia?

9. What are the indications for stimuli in Fevers?

10. What are the several forms of Bright's Disease?

11. Give the tests for Albumen, and their fallacies.

12. Describe the varieties of tube casts met with in Bright's Disease.

PRINCIPLES AND PRACTICE OF SURGERY.

TUESDAY, MARCH 25TH.

Examiners,..... { PROF. G. E. FENWICK, M. D.
LECT. F. BULLER, M.D., M.R.C.S., Eng.

1. Describe the action of a ligature in its application to an artery.

2. In the selection of a site for the application of a ligature to any artery, in cases of aneurism, what ordinary rules would guide you?

3. What do you understand by "Pott's Fracture;" mention the lesions which occur in this form of accident, and how would you treat it?

4. What is dry gangrene? Mention the causes, the conditions which exist in this affection, and the class of persons in whom it is most liable to occur.

5. In what cases would you advise colotomy? Describe the operation in the left loin, what risks attend it, and how would you avoid them?

6. How would you excise the elbow joint, and in what cases would you advise the operation?

7. Mention the symptoms and appearances of concussion of the brain what lesions in concussion may possibly exist, and how would you treat it

8. Give the differential diagnosis of Dislocations of the hip into the schiatic notch, on to the dorsum of the ilium, and into the obturator foramen.

9. Give the diagnostic points of difference between inflammation of the conjunctiva and iris.

10. Describe Zonular or Lamellar Cataract, and state how you would treat this affection.

EXAMINATION FOR THE SUTHERLAND GOLD MEDAL.

THEORETICAL CHEMISTRY.

MARCH 20TH.

Examiners,.....PROFESSORS { R. CRAIK, M.D.
G. P. GIRDWOOD, M.D.

1. Explain what is meant by the terms *radiant heat, latent heat, and specific heat.* How are differences of temperature estimated? Describe the dif-

ferent thermometers in ordinary use and the rules for converting degrees of one scale into degrees of the other.

2. Explain Boyle's or Mariotte's law, and the principles involved in the action of the mercurial barometer and the common air pump.

3. Write the formulæ for the oxides of nitrogen ; show how nitric acid is derived from the Pentoxide, and describe the mode of manufacture and the properties of commercial nitric acid.

4. In what condition are the metals usually found in nature? Give an outline of the process by which they are obtained in the metallic state with the chemical changes involved in the cases of *iron* and *potassium*, expressed in symbolic equations.

5. Write the formulæ for a *monatomic*, a *diatomic* and a *triatomic alcohol*, and show how *Ethyl alcohol* is converted into an *Aldehyde* and subsequently into an *Acid*.

6. Write the formulæ for a *primary*, a *secondary* and a *tertiary monamine*. State to which of these classes the vegetable alkaloids belong, and describe the tests for strychnia.

FACULTY OF LAW.

FIRST YEAR.

ROMAN LAW.

Examiner,..... PROF. TRENHOLME

1. Mention the principal sources of our information on the history of Roman Law?

2. How is the history of Roman Law divided, and state what division you prefer, and why?

3. By what means are we able to know anything of the primitive and reformed Roman Constitution?

4. Give the date and import of *Leges Sacræ; Lex Canuleia; Rogationes Licinianæ; Lex Hortensia; Lex Moenia.* What were *Leges Agrariæ?*

5. With whom did the power of legislation lie at different periods in Roman history, and what were the different legislative enactments called?

6. What was the *Jus. Honorarium?* What the *Jus. Gentium?* What the *Edictum Perpetuum?*

7. Mention in chronological order the great agencies in the amelioration of the law, and by what they were represented in Roman Law.

8. Explain the meaning of *Civitas; Jus. Latinum; Jus. Italicum Colonia; Municipium, Praefectura; Proconsul; Propraetor; Corpus Juris Civilis; Lex Romana Visigothorum.*

FIRST YEAR.

CIVIL PROCEDURE.

(4 TO 5.30 P.M. FOR ORDINARY; AND 4 TO 6 P.M. FOR HONORS.)

Examiner, ... M. HUTCHINSON.

1. Can a minor institute an action in his own name? Can a married woman? Is there any exception in either case?

2. Can a foreign corporation institute an action before our Courts?

3. Can a creditor join several causes of action in the same suit? Can he divide his debt and take two actions against his debtor?

4. What preliminary steps must be taken in order to sue a public officer for damages by reason of any act done by him in the exercise of his functions? If the act complained of was committed at Quebec, could such action be brought at Montreal if a personal service were effected at the latter place?

5. Do delays run upon Sundays and holidays? If so, are there any, and what exceptions?

6. Under what conditions can a party plead *in formâ pauperis?*

7. Under what conditions can an action for the recovery of a debt contracted in a foreign country be taken in our Courts?

8. Can a married woman institute an action at Montreal, for separation from bed and board, against her husband, domiciled at Toronto, if a personal service was made on him in Montreal?

9. If there are several defendants in the same suit residing in different districts, under what circumstances could you bring them all before the court sitting at Montreal?

10. Under what circumstances can an action be taken against a debtor, the initials of whose name can only be ascertained?

11. In how many ways may a defendant residing in Nova Scotia be summoned to appear before our Courts? Describe each.

12. Can an attorney confess judgment for his client? If so, under what circumstances?

(Any eight of the above twelve questions to be answered.)

FIRST YEAR.

CIVIL LAW.

Examiner,.....PROF. RAINVILLE.

1. A quelles lois sont soumis les actes quant à leur forme ?

2. Quelles personnes peuvent se faire naturaliser et quelles sont les formalités nécessaires à la naturalisation ?

3. Qu'est ce que le domicile ? Où le mineur et la femme mariée ont-ils leur domicile ? Qui peut changer son domicile ?

4. Quels sont les droits des personnes envoyées en possession provisoire ?

5. Quelles personnes peuvent demander l'envoi en possession définitive ? Et quand ?

FIRST YEAR.

HISTORY OF CANADIAN LAW.

Examiner,.....M. LAREAU.

1. Quelles sont les principales sources du Droit Canadien.

2. Comment se composait le Droit Commun de la France avant 1663.

3. Mentionnez les grandes ordonnances du XVIe siècle, et dites les matières principales qui en faisaient l'objet.

4. Qu'est-ce que la Coutume de Paris ; dites le rôle qu'elle a joué en France et en Canada.

5. Quelles sont les principales clauses mentionnées dans la Charte de 1627.

6. Dites les principales dispositions de l'Edit de Création de 1663.

7. Donnez l'analyse de l'Acte Constitutionnel de 1774.

8. Donnez l'analyse de l'Acte Constitutionnel de 1791.

9. Donnez l'analyse de l'Acte Constitutionnel de 1840.

10. Donnez l'analyse de l'Acte Constitutionnel de 1867.

FIRST YEAR.

COMMERCIAL LAW.

Examiner,..... PROFESSOR WURTELE, Q.C., B.C.L.

OBLIGATIONS.

1. What things are essential to a contract; what things are of its nature and what things are accidental to a contract?

2. To give validity to a contract, what must be the nature of the consent?

3. What is the general rule as to the capacity to contract?

4. What difference is there between the incapacity of a person interdicted for insanity and of a person interdicted for prodigality?

5. When the cause of a contract is not expressed, on whom does the burden of proof fall when it is alleged that none exists?

6. What is the effect of the obligation to give?

7. When the creditor demands the removal of what has been done in breach of his rights, has the Court the option of ordering the removal or of giving damages?

8. What three conditions must exist to render a debtor liable to pay damages?

9. When is a debtor liable in damages notwithstanding fortuitous events or irresistable force?

10. What is the rule respecting damages when the obligation consists in the payment of money?

11. What two conditions are necessary to give the Paulian Action?

12. When is the Paulian Action prescribed?

FIRST YEAR.

CRIMINAL LAW.

Examiner,.....MR. ARCHIBALD.

1. Define Criminal Law.

2. Define the term "CURRENT COIN" in relation to the offence of counterfeiting.

3. What degree of resemblance, as to form and colour must exist between a false coin and the current coin to constitute the making of the former "counterfeiting"?

4. Define larceny, embezzlement, obtaining goods under false pretences; and point out the distinctions between each.

5. If a man obtains goods from a merchant, promising to return in a few minutes and pay for them, which he did not do, and does not at the time intend to do, is he guilty of the offence of obtaining goods by false pretences? and give the reason for your opinion.

6. A merchant having secured a piece of goods to his counter by a cord, a person, intending to steal them, moves them away until arrested by the cord. Is he guilty of larceny?

Would it make any difference if the goods had not been secured, other things being the same? Give reasons for your opinion.

7. Define an accessory after the fact.

8. Define "A Riot," "Rout," Unlawful Assembly."

Is an assembly of persons guilty of some criminal offence necessarily an "Unlawful Assembly"?

9. May burglary be committed in the out-houses surrounding a man's dwelling?
What is meant by the word "night" in reference to this offence.

10. Under what circumstances would a finder of lost goods who converted them to his own use be guilty of larceny?

11. State concisely the law relating to provocation in reference to homicide?

12. What offences are punishable by death under our law?

* Students are to answer any eight of the foregoing questions.

SECOND AND THIRD YEARS.

ROMAN LAW.

Examiner,.....PROF. TRENHOLME.

1. Indicate briefly the successive steps in the development of the Roman Law of Contract.

2. Give a short account of *pignus and depositum* in Roman Law.

3. What was an *obligatio naturalis*, and what effect had it, if any, in Roman Law, and what in our law?

4. Distinguish, in chronological order, the different kinds of suretyship known to Roman Law, and mention the *beneficia* enjoyed by sureties.

5. What was the origin of the stringent provisions in modern jurisprudence as to the responsibility of hotel keepers and carriers, and to what extent may these persons limit their responsibility by notices?

6. What was the *actio commodati; serviana; pauliana; pro socio; familiæ erciscundæ; communi dividundo; negatoria, confessorea.*

7. State the general rule as to the measure of damages for breach of contract, and mention any leading cases you know on this subject.

8. What is evidence? What are its different kinds? What may be proved by parol? Whence de we derive our law on this subject?

9. Give the date and import of *Leges Sacræ; Lex Canuleia; Lex Hortensia; Lex mœnia* What were *Leges Agrariæ?*

10. With whom did the power of legislation lie at different periods in Roman history, and what were the different legislative enactments called?

11. What was the *Jus. Honorarium?* What the *Jus. Gentium?* What the *Edictum Perpetuum?*

12. Mention in chronological order the great agencies in the amelioration of the law, and by what they were represented in Roman Law.

13. Explain the meaning of *Civitas; Jus. Latinum; Jus. Italicum; Colonia; Municipium, Praefectura; Proconsul; Propraetor; Corpus Juris Civilis; Lex Romana Visigothorum.*

SECOND AND THIRD YEARS.

INTERNATIONAL LAW, INSURANCE BND BOTTOMRY.

Examiner,.....PROFESSOR KERR.

1. What is a Sovereign State? Are the State of New York and the Dominion of Canada Sovereign States? What are the rights of a Sovereign State?

2. State what constitutes a breach of Blockade under the English practice? What is the difference between the English and Continental practice relative to breach of Blockade?

3. What is the procedure to obtain condemnation of enemy's property captured at sea? Of property seized as contraband, or for violation of Blockade?

4. What is the difference between domicile in International Law and domicile under the Civil Code of Lower Canada?

5. What are the differences between a time and a voyage policy in Marine Insurance?

6. If a creditor insures the life of his debtor for an amount equal to his debt, and the debtor's heirs after the death of the debtor (the policy having been kept alive by the creditor) pay the debt, can the creditor recover from the insurer the amount of the policy? If the debtor during his lifetime pay the debt (the creditor keeping the policy alive), does the creditor lose his recourse against the insurer? Give the leading cases on the subject.

7. What is the difference between a warranty and a representation?

8. For what losses is the insurer liable under a policy of fire insurance?

9. In what consists the Maritime territory of a state?

10. What principles regulate the divorce of parties married in a State other than the one in which the application for divorce is made?

11. What is abandonment in Marine Insurance? When is it necessary? How is it made?

12. What is Jettison? When does it give rise to a general average contribution? What is the difference between the Civil Code of Lower Canada and the practice of English average adjusters in the event of a second jettison *quoad* the goods jettisoned in the first instance?

Nos. 1 to 8 inclusive, for degree; the whole paper for honors.

SECOND AND THIRD YEARS.

COMMERCIAL LAW.

Examiner,.....PROFESSOR WURTELE, Q.C., B.C.L.

PARTNERSHIP.

1. What is the difference between Partnership and Community?

2. What is of the essence of the Contract of Partnership?

3. What is a Commercial Partnership; and what are its kinds?

4 What is an anonymous Partnership?

5. How is the contract of Partnership formed; what formalities are requisite in the case of a trading partnership; and what is the consequence of non-compliance with such formalities?

6. What is the scope of a partner's power or mandate?

7. Is a retired partner ever liable for debts created after his retirement from the firm?

8. How do debts created after the retirement of a dormant partner affect him?

9. What difference is there between a Limited Partnership and a Joint Stock Company?

10. By what modes can a Partnership be dissolved?

11. What is the effect of the dissolution as regards the powers of the partners?

12. How is the community which exists after the dissolution of a Partnership dissolved?

SECOND AND THIRD YEARS.

CIVIL LAW.

Examiner,.....M. LAREAU.

1. Qu'est-ce qu'un privilége; qu'est-ce qu'une hypothèque; qu'entendez-vous par tiers-détenteur?

2. Comment s'établissent les priviléges sur les meubles?

3. Comment s'établissent les priviléges sur les immeubles?

4. Combien y a-t-il de sortes d'hypothèques? Définissez.

5. Quelles sont les hypothèques légales? Définissez

6. Quelles sont les exceptions que le tiers-détenteur peut opposer à l'action hypothécaire, et définissez ces différents cas?

7. Qu'est-ce que la prescription? Combien de sortes? Définissez?

8. Qu'appellez-vous interversion de titre?

9. Quand et comment a lieu l'interruption de prescription?

10. Il s'agit d'une créannce hypothécaire, résultant cependant en une obligation divisible consentie par Jupiter en faveur de Primus, Secundus et Tertius au montant de $3,000. Secundus décède, laissant trois héritiers, César, Ciceron et Hostilius. La créance hypothécaire est sur le point d'être prescrite lorsque Primus fait une reconnaissance du droit emportant interruption de prescription à l'égard et en faveur de Cicéron seulement. On demande si les autres créanciers solidaires et les co-héritiers auront le bénéfice de cette interruption, et jusqu'à quel montant.

SECOND YEAR AND THIRD YEARS.

CIVIL LAW.

Examiner, ... PROF. RAINVILLE.

DONATIONS.

1. Quel est l'effet d'une condition illicite apposée à une donation ? Enumérez quelques-unes des conditions illicites ou immorales.

2. Quelles personnes sont incapables de disposer par donation entre vifs ? Donnez la nature de ces incapacités.

3. Quelle époque, doit-on considérer pour apprécier la capacité du donateur de disposer par donation entre vifs ?

4. En quelle forme doit être faite une donation entre vifs ?

5. En quelle forme doit être faite l'acceptation d'une donation entre vifs ?

SECOND AND THIRD YEARS.

CIVIL PROCEDURE.

(4 TO 5.30 P.M. FOR ORDINARY ; AND 4 TO 6 P.M. FOR HONORS.)

Examiner..... M. HUTCHINSON.

1. What is a demurrer ? Give an example ?

2. What is the object of an intervention ? In what respects does it differ from an opposition ?

3. When may a party to a suit be summoned to answer interrogatories upon articulated facts (*faits et articles*), and what is the effect of neglecting to answer such interrogatories ?

4. Can a corporation be summoned to answer interrogatories upon articulated facts ? If so, how must such corporation answer ?

5. When can evidence be taken before our courts in short hand ?

6. Under what circumstances and at what stage of the case can you examine a witness who is about to leave the Province ?

7. Does relationship render a witness incompetent to give evidence ? If so, what degree ?

8. Can a party residing in Toronto be summoned as a witness before a Montreal Court ? If so, by whom must the subpœna be served, and in case the witness make default, how can he be punished ?

9. Under what circumstances can a grown person, in the exercise of his mental faculties, and not related to the parties, be prevented from giving evidence?

10. When can a witness object to answer a question put to him?

11. In how many ways may you obtain the evidence of a witness residing at Quebec, Toronto and New York, respectively? Describe each?

12. If a landlord takes an action against his tenant for damages done to the house occupied by the latter, can either party demand a trial by jury? Give your reasons.

(Any eight of the above twelve questions for ordinary: the whole twelve for candidates for the Medal.)

SECOND AND THIRD YEARS.

EXAMINATIONS IN CRIMINAL PROCEDURE.

Examiner,.....MR. ARCHIBALD

1. What do you understand by the term Criminal Procedure?

2. How is a warrant of arrest obtained? To whom is it addressed?

3. How is it executed in case the Defendant has escaped into another jurisdiction within Canada?

4. When may arrests be made without a warrant?

5. Where are offences to be tried?

6. How many terms of the Criminal Court per annum are held in the District of Montreal, and when do they open?

7. Whose duty is it to see that jurors are summoned for these terms, and how is this duty performed?

8. For what length of time does a petty jury usually serve?

9. How are the jury lists prepared?

10. What are the functions of the Grand Jury?

11. What offences are bailable by one or more magistrates? What is the duty of magistrates with reference to accepting bail?

12. State the law respecting challenges as well to the array as to the polls.

* Students not competing for the Medal may answer any eight of the foregoing questions, Medal Students to answer the whole twelve.

ROMAN LAW.

(FOR THE DEGREE OF D.C.L.)

Examiner, ... PROF. TRENHOLME.

1. Translate Gains, IV Com., §§ 11, 12, 30.

2. Give a short account of the actions mentioned in the above sections, and of the changes in procedure treated of by Gains in the IV Commentary.

3. Translate Pomponius, § 2, 7, 32.

4. Give some account with dates: *Jus Civile Papirianum; Jus Civile Flavianum; Jus Elianum; Jus Honorarium.*

5. Give a short sketch of the Roman Constitution, primitive and reformed, and indicate the means by which we are able to know anything on this subject.

6. Give a short account of the struggle for equal rights between the Plebeians and Patricians, and the principal measures enacted and magistrates created in connection therewith. What was the place and nature of the position held by the XII Tables in this struggle?

COMMERCIAL LAW.

(FOR THE DEGREE OF D.C.L.)

Examiner..... PROFESSOR WURTELE, Q.C., B.C.L.

OBLIGATIONS.

1. Why must the artifice in the case of fraud emanate from the other party to be a cause for the avoidance of a contract?

2. When a person contracts that another will perform an obligation, is he liable in damages when such other person has ratified and assumed the obligation?

3. In what form must the acceptance of a gift be made, when such gift is stipulated in favor of a third party in a deed to which he is not a party?

4. What difference is there in the effect of a resolution by mutual consent and the resiliation of a contract.

SALE.

5. What difference is there in the effect of the contract of Sale before and since the promulgation of the Civil Code?

6. What are the rights of a person buying in good faith a moveable, which is in the possession of but does not belong to the Seller?

7. What is the effect of an unregistered title of conveyance of real estate: 1°, as regards the parties thereto; and 2°, as regards a third party?

8. What is the effect of a sale of moveable property sold by measure?

University School Examinations,

1879.

PRELIMINARY SUBJECTS.

GOSPELS.

MONDAY, MAY 19TH:—AFTERNOON, 4 TO 5.

Examiner,.....J. CLARK MURRAY, LL.D.

1. Who was (*a*) the Mother of Jesus, (*b*) the Mother of John the Baptist? (*c*) How were they related?

2. (*a*) In what town, and in what province of Palestine did the Mother of Jesus reside? (*b*) What led to Jesus being born elsewhere?

3. (*a.*) What act of cruelty was perpetrated by Herod shortly after the birth of Jesus? (*b*) How did Jesus escape?

4. Tell the story of Christ's visit to the passover in Jerusalem when he was twelve years of age.

5. Relate the three temptations of Jesus.

6. What was the first miracle which Jesus performed?

7 (*a*) What was the occupation of Peter and Andrew and James and John? (*b*) What were the words addressed to them by Jesus when He called them to be apostles?

8. Who were (*a*) the Pharisees, (*b*) the Sadducees, (*c*) the Publicans?

9. (*a*) What was the occasion on which the parable of the Good Samaritan was spoken, and (*b*) what lesson was it intended to teach?

10. Who were Caiaphas and Pilate?

11. (*a*) Who betrayed Jesus? (*b*) What was the subsequent fate of the traitor?

12. What were the last words spoken by Jesus before His ascension?

GEOGRAPHY.

MONDAY, MAY 19TH:—AFTERNOON, 2 TO 4.

Examiner,.....J. CLARK MURRAY, LL.D.

1. What is meant by a Hemisphere?

2. Name the Continents in each Hemisphere.

3. Where is (*a*) the Atlantic, (*b*) the Pacific, (*c*) the Arctic, (*d*) Antarctic, (*e*) the Indian, Ocean?

4. Describe the situations of (*a*) the Black, (*b*) the White, (*c*) the Red, and (*d*) the Yellow, Seas.

5. (*a*) What is a Gulf? (*b*) Where are the Persian Gulf, and the Gulfs of Mexico, of Bothnia, and of St. Lawrence?

6. Name the countries of which the following cities are the respective capitals:—Dublin, Edinburgh, Paris, Madrid, Berlin, Vienna, Constantinople, St. Petersburg, Copenhagen, Pekin, Washington.

7. Name the continent in which each of the following countries is situated:—Egypt, Persia, China, Brazil, Sweden, Italy, Peru, Siam, Holland, Afghanistan, Austria, Abyssinia.

8. Describe the situations of the following bays in British North America:—Bay of Funday, Miramichi Bay, Bay of Chaleurs, Georgian Bay, Hudson Bay, James Bay.

9. Name the Province of the Dominion to which each of the following cities belongs:—Brantford, Charlottetown, Fredericton, Halifax, Hamilton Kingston, London, Montreal, Ottawa, Quebec, Toronto.

10. Draw a map showing the relative positions of the great Lakes of North America.

ENGLISH GRAMMAR.

TUESDAY, MAY 20TH:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL.D.

1. Distinguish, in the English alphabet, vowels, semi-vowels and consonants.

2. Spell the present participles of the following verbs:—Differ, defer, sob, daub, read, rid, ride, lie, lay, die, dye, sing, singe.

3. Distinguish proper, common and abstract nouns in the sentence:—"That man has little to be envied, whose patriotism would not gain force

upon the plain of Marathon, or whose piety would not grow warmer among the ruins of Iona."

4. In the following sentences point out the adjectives, and the noun or pronoun with which each agrees:—(*a*) He is the free man whom the truth makes free; (*b*) Marvellous are Thy works; (*c*) There are many fine pictures and valuable books in that old castle.

5. In the following sentence select the pronouns, stating whether they are personal, possessive, relative, interrogative, or compound:—"What did you say to the man who passed us just now, when he told you that he had many strange tales to tell of his own travels?"

6. Give the past tense and the past participle of each of the following verbs:—Dive, strive, weed, speed, lead, read, beat, seat, sit, flee, fly, dye.

7. In the following sentence distinguish active, passive, transitive, intransitive, and impersonal verbs:—"As we entered the forest, it grew suddenly dark and began to rain; a peal of thunder was heard, and the lightning flashed so vividly that we could see our way with ease."

8. In each of the following sentences distinguish subject, predicate, attribute, and modifying word or phrase:—(*a*) The little cricket chirps merrily; (*b*) The glorious sun is not yet risen.

9. In the following sentences distinguish direct and indirect object:—(*a*) He conjured me to make my escape; (*b*) The general set fire to the ships; (*c*) I played him a tune on the flute.

10. Distinguish the principal and the subordinate sentences in the sentences given under questions 3, 5, and 7.

ARITHMETIC.

WEDNESDAY, MAY 21ST:—MORNING, 9 to 12.

Examiners,..... { REV. PRINCIPAL LOBLEY, D.C.L.
GEO. H. CHANDLER, M.A.

1. A owes B $1758.75, and having already made over to him goods worth $243.50, and a piece of land worth 75 cents per square foot, and measuring 1248 square feet, he gives him a bill for $600. What change ought A to receive?

2. Divide £964 6s. 2d. equally among 427 persons.

3. State the rule for reducing a recurring decimal to a vulgar fraction; and write down the vulgar fraction equivalent to $\cdot\dot{4}3\dot{7}0\dot{8}$.

4. From $\frac{8}{15}$ of $\frac{81}{29}$ of a year of 365 days, subtract the difference between $\frac{13}{84}$ of $115\frac{1}{2}$ weeks and $\frac{7}{9}$ of $7\frac{1}{8}$ of $13\frac{3}{4}$ days.

5. Find the difference between the simple interest of £563 at $5\frac{1}{2}$ per cent. per annum and £488 at 6 per cent per annum, in $3\frac{1}{2}$ years.

6. Bought apples at 36 for 35 cents. How many must I sell for 21 cents to gain 20 per cent. on my outlay?

7. Divide $\frac{3\frac{3}{4}}{4\frac{2}{7}} - \frac{3\frac{3}{4}}{4\frac{1}{4}} \quad \frac{\frac{4}{7}}{2\frac{1}{2}}$ by $(\frac{1}{3} - \frac{3}{4}) \times \frac{6}{7}$

8. A gallon of water weighs 10 lbs. and a cubic foot of water weighs $62\frac{1}{2}$ lbs; how many gallons are there in 748 cubic feet?

9. What must be paid for insuring a house to the amount of $4250, the premium of insurance being $1\frac{1}{4}$ per cent?

10. If 4 men or 6 women or 8 boys could do a certain piece of work in $56\frac{1}{4}$ hours, in what time could 1 man, 2 women and 5 boys, working together, do it?

11. Divide $240 among three men so that their shares may have the same ratios as the numbers 1, 2, and 3 have?

12. Express 1879 in Roman notation, and $\overline{\text{XXV}}$MMXXVII in common figures.

BRITISH AND CANADIAN HISTORY.

WEDNESDAY, MAY 21ST:—AFTERNOON, 2 TO 5.

Examiners,..... { REV. J. CLARK MURRAY, LL.D.
REV. ISAAC BROCK, M.A.
CHAS. G. MOYSE, B.A.

1. Give the *names* and *positions* of the Seven Kingdoms of the Saxon Heptarchy.

2. Who was Bede? When and where did he live? What did he write?

3. Give the dates of the Norman Conquest, the accession of Queen Elizabeth, the Restoration and the Revolution.

4. When, and where, and in whose reign, was the Magna Charta signed? Whence its importance?

5. In whose reigns did the Wars of the Roses take place? What King fell at the last battle, that of Bosworth? And what dynasty succeeded then to the English throne?

6. Where did Spenser, Shakespeare, Raleigh and Hooker live? Mention some of their writings.

7. When and where were the Battles of Preston Pans, and Culloden Moor fought, and with what results?

8. By whom was Canada discovered, and when? Who laid the foundations of the city of Quebec?

9. Give the date of the capture of Quebec by the English and the names of the English and French generals. Where was the decisive battle fought?

10. Who was Tecumseh? In what campaigns was he distinguished?

11. What are the principal Indian Tribes in British North America? What are their present relations to the British Crown?

12. When did the Act entitled "The British North America Act" come into force? What was the result of this Act?

GEOMETRY.

THURSDAY, MAY 22ND:—9 TO 12.

Examiners,..... { REV. PRINCIPAL LOBLEY, D.C.L.
GEO. H. CHANDLER, M.A.

1. Define parallel straight lines, a circle, a rectangle, a segment of a circle.

a. What is the difference between a postulate and an axiom?

2. If two angles of a triangle be equal to each other, the sides also which subtend, or are opposite to, the equal angles shall be equal to one another.

3. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are together equal to two right angles.

a. Through a given point between two given straight lines draw a straight line which shall make equal angles with those two given straight lines.

4. Equal triangles upon equal bases in the same straight line, and towards the same parts, are between the same parallels.

5. In any right-angled triangle the square described upon the side subtending the right angle is equal to the square described upon the other two sides.

6. If a straight line be divided into any two parts, the square of the whole line is equal to the squares of the two parts, together with twice the rectangle contained by the parts.

7. Describe a square that shall be equal to a given rectilineal figure.

8. If in a circle two straight lines cut one another which do not both pass through the centre they do not bisect one another.

9. If two circles touch each other externally in any point, the straight line which joins their centres shall pass through that point.

a. If two circles touch each other externally, shew that all circles which touch these two have their centres in one straight line.

10. The angle at the centre of a circle is double of the angle at the circumference upon the same base, that is, upon the same part of the circumference.

11. In equal circles equal straight lines cut off equal circumferences, the greater equal to the greater, and the less to the less.

12. If from any point without a circle two straight lines be drawn, one of which cuts the circle and the other touches it, the rectangle contained by the whole line which cuts the circle, and the part of it without the circle, shall be equal to the square of the line which touches it.

a. If two circles cut one another in A and B, and from any point in the straight line A B produced tangents be drawn to the two circles, these tangents are equal.

OPTIONAL SUBJECTS.

LATIN.

FRIDAY, MAY 23RD :—MORNING, 9 TO 12.

Examiners,..... ... { REV. GEORGE CORNISH, LL.D. / REV. CANON NORMAN, D.C.L.

1. Translate, Virgil, Ecl. IV. :—

(*A*) At tibi prima, puer, nullo munuscula cultu
Errantis hederas passim cum bacchare tellus
Mixtaque ridenti colocasia fundet acantho.
Ipsae lacte domum referent distenta capellae
Ubera, nec magnos metuent armenta leones.
Ipsa tibi blandos fundent cunabula flores.
Occidet et serpens, et fallax herba veneni
Occidet; Assyrium volgo nascetur amomum.
At simul heroum laudes et facta parentis
Iam legere et quae sit poteris cognoscere virtus,
Molli paulatim flavescet campus arista,
Incultisque rubens pendebit sentibus uva,
Et durae quercus sudabunt roscida mella.

2. Translate:—(*a*) Liber pampineas invidit collibus umbras. (*b*) Atque solo proceras erigit alnos. (*c*) Solvite me pueri, satis est potuisse videri. (*d*) Et gravis attrita pendebat cantharus ansa. (*e*) Tristia condere bella. (*f*) Nec tam præsentes alibi cognoscere divos.

3. Translate, Cicero, Pro Archia :—

(*B*) Quaeres a nobis, Grati, cur tanto opere hoc homine delectemur. Quia suppeditat nobis ubi et animus ex hoc forensi strepitu reficiatur et aures convicio defessae conquiescant. An tu existimas aut suppetere nobis posse quod cotidie dicamus in tanta varietate rerum, nisi animos nostros doctrina excolamus, aut ferre animos tantam posse contentionem, nisi eos doctrina eadem relaxemus? Ego vero fateor me his studiis esse deditum: caeteros pudeat, si qui se ita litteris abdiderunt, ut nihil possint ex his neque ad communem adferre fructum neque in aspectum lucemque proferre: me autem quid pudeat, qui tot annos ita vivo, iudices, ut a nullius umquam me tempore aut commodo aut ocium meum abstraxerit aut voluptas avocarit aut denique somnus retardarit?

4. Render into good English:—(*a*) Natus est loco nobili. (*b*) Quæstio legitima. (*c*) Quum prætextatus tum esset. (*d*) Resignare testamentum. (*e*) Ad ærarium delatus est. (*f*) Audiebatur a M. Æmilio. (Explain allusions to ancient usages in (*c*) and (*d*).)

5. Derive and translate the words:—Acroama, tropæa, simulacra, vinculum, exsilium, apricus, penitus, contagia, tegmen, præsepe, culmen, solstitium.

6. Translate, Cæsar, Bellum Britannicum :—

(*C*) Ipse cum omnibus copiis in Morinos proficiscitur, quod inde erat brevissimus in Britanniam trajectus. Huc naves undique ex finitimis regionibus et quam *superiore aestate* ad Veneticum bellum effecerat classem jubet convenire. Interim *consilio* ejus *cognito* et per mercatores perlato ad Britannos, a compluribus insulae civitatibus ad eum legati veniunt qui polliceantur obsides dare atque *imperio* populi Romani obtemperare. Quibus auditis liberaliter pollicitus hortatusque ut in ea sententia permanerent eos *domum* remittit, et cum iis una Commium, quem ipse Atrebatibus superatis regem ibi constituerat, cujus et virtutem et consilium probabat et quem sibi fidelem esse arbitrabatur, cujusque auctoritas in his regionibus *magni* habebatur, mittit. *Huic* imperat quas possit adeat civitates horteturque ut populi Romani fidem sequantur, seque celeriter eo venturum nuntiet.

7. (*a*) Explain the use of the oblique cases printed in Italics in ext. (*C*). (*b*) Obsides *dare*:—What would be the more usual construction? (*c*) *Permanerent*, *polliceantur*, *adeat*:—Explain the use of the mood and of the tenses, n these several instances.

8. Explain as accurately as you can the following geographical refer-

ences, giving modern names where you can:—Veneticum bellum, Atrebates, Ad portum Itium, Treveri, Silvam Arduennam, Trinobantes, Remi, Senones.

9. Parse the following words, giving the principal parts of the verbs:—bacchare, ridenti, occidet, sentibus, defessae, cotidie, avocarit, perlato, obsides, heroum.

10. (*a*) Write down (1) the English; (2) the genitive singular; and (3) the gender, of:—ros, palmes, cæspes, lac, frons (a leaf), vellus. (*b*) Compare:—malus, nequam, uber, ultra, tenax, prope. (*c*) Name the several classes of numerals, and give the Latin for 13, 23rd, seven apiece, a hundred times. (*d*) Name, giving one example of each, the various classes of pronouns. When do you use *vestri* and *vestrum* (genitive)?

11. Turn into Latin:—(1) He conducted himself as a citizen at Antioch. (2) He came to Rome in the consulship of Marius and Catulus. (3) Hostages having been received, he crossed the river. (4) He continued to live at Rome for many years, and died there. (5) He was slain by the enemy.

GREEK.

MONDAY, MAY 26TH:—MORNING, 9 TO 12.

Examiners, ... { REV. GEORGE CORNISH, LL.D. / REV. CANON NORMAN, D.C.L.

1. Translate Homer, Iliad, Book VI:—

(*a*)

Ἄδρηστον δ' ἄρ' ἔπειτα βοὴν ἀγαθὸς Μενέλαος
Ζωὸν ἑλ'· ἵππω γάρ οἱ ἀτυζομένω πεδίοιο,
Ὄζῳ ἐνι βλαφθέντε μυρικίνῳ, ἀγκύλον ἅρμα
Ἄξαντ' ἐν πρώτῳ ῥυμῷ, αὐτὼ μὲν ἐβήτην
Πρὸς πόλιν, ἦπερ οἱ ἄλλοι ἀτυζόμενοι φοβέοντο·
Αὐτὸς δ' ἐκ διφροιο παρὰ τροχὸν ἐξεκυλίσθη
Πρηνὴς ἐν κονίῃσιν ἐπὶ στόμα. παὰρ δέ οἱ ἐστη
Ἀτρείδης Μενέλαος ἔχων δολιχόσκιον ἔγχος.
Ἄδρηστος δ' ἄρ' ἔπειτα λαβὼν ἐλλίσσετο γούνων.
Ζώγρει, Ἀτρέος υἱέ· σὺ δ' ἄξια δέξαι ἀποινα·
Πολλὰ δ' ἐν ἀφνειοῦ πατρὸς κειμήλια κεῖται,
Χαλκός τε χρυσός τε, πολύκμητός τε σίδηρος·
Τῶν κέν τοι χαρίσαιτο πατὴρ ἀπερείσι' ἄποινα,
Εἰ κεν ἐμὲ ζωὸν πεπύθοιτ' ἐπὶ νηυσὶν Ἀχαιῶν.

(*β*)

Ἕκτωρ δὲ πρὸς δώματ' Ἀλεξάνδροιο βεβήκει
Καλά, τά ῥ' αὐτὸς ἔτευξε σὺν ἀνδράσιν, οἵ τότ' ἄριστοι
Ἦσαν ἐνὶ Τροίῃ ἐριβώλακι τέκτονες ἀνδρες·

Οἱ οἱ ἐποίησαν θάλαμον καὶ δῶμα καὶ αὐλὴν
Ἐγγύθι τε Πριάμοιο καὶ Ἕκτορος ἐν πόλει ἄκρῃ.
Ἔνθ' Ἕκτωρ εἰςῆλθε Διί φίλος· ἐν δ' ἄρα χειρὶ
Ἔγχος ἔχ' ἐνδεκάπηχυ· πάροιθε δὲ λάμπετο δουρὸς
Αἰχμὴ χαλκείη, περὶ δὲ χρύσεος θέε πόρκης.
Τὸν δ' εὗρ' ἐν θαλάμῳ περὶ κάλλιμα τεύχ' ἑποντα,
Ἀσπίδα καὶ θώρηκα καὶ ἀγκύλα τόξ' ἀφόωντα·
Ἀργείη δ' Ἑλένη μετ' ἄρα δμωῇσι γυναιξὶν
Ἧστο, καὶ ἀμφιπόλοισι περικλυτὰ ἔργα κέλευεν.

2. (*a*) In ext. (*a*) explain the construction of *βοήν*, *οἱ* (vs. 2), *πεδίοιο*, *οἱ* (vs. 7), *γούνων*, *τῶν*. (*b*) Give the different meanings of *τοί*. (*c*) *χαλκός*:—What was it composed of?

3. Parse the following verbs:—*γόον*, *κατέδυ*, *πῆλε*, *ὀρέξατο*, *ἀνώγει*, *ἀποέρσε*, *ἐπιπλώς*, *χάνοι*, *πίησθα*, *οὖτα*. Give the different meanings of *οιος* according to difference of Breathing and Accent.

4. (*a*) Give the Attic equivalents of:—*φάν*, *δόμοιο*, *βείω*, *καταξέμεν*, *ξεστῆς*, *κέν*. (*b*) Write down the metrical scale of the above extt., and scan (carefully marking the feet and quantities) the first three vss. of ext. (*a*), and note any peculiarities of metre.

5. Translate, Xenophon, Anabasis, Book II.:—

(*γ*) Ἔπειτα πρῶτον μὲν ἀγορὰν οὐδεὶς παρέξει ἡμῖν οὐδὲ ὅθεν ἐπισιτιούμεθα· αὖθις δὲ ὁ ἡγησόμενος οὐδεὶς ἔσται· καὶ ἅμα ταῦτα ποιούντων ἡμῶν εὐθὺς Ἀριαῖος ἀφεστήξει· ὥστε φίλος ἡμῖν οὐδεὶς λελείψεται, ἀλλὰ καὶ οἱ πρόσθεν ὄντες πολέμιοι ἡμῖν ἔσονται. Ποταμὸς δ' εἰ μέν τις καὶ ἄλλος ἄρα ἡμῖν ἐστι διαβατέος οὐκ οἶδα· τὸν δ' οὖν Εὐφράτην οἰδαμεν ὅτι ἀδύνατον διαβῆναι κωλυόντων πολεμίων. οὐ μὲν δή, ἂν μάχεσθαί γε δέῃ, ἱππεῖς εἰσιν ἡμῖν ξύμμαχοι, τῶν δὲ πολεμίων ἱππεῖς εἰσιν οἱ πλεῖστοι καὶ πλείστου ἄξιοι· ὥστε νικῶντες μὲν τίνα ἂν ἀποκτείναιμεν; ἡττωμένων δὲ οὐδένα οἷόν τε σωθῆναι. Ἐγὼ μὲν οὖν βασιλέα, ᾧ οὕτω πολλά ἐστι τά σύμμαχα, εἴπερ προθυμεῖται ἡμᾶς ἀπολέσαι, οὐκ οἶδα ὅ,τι δεῖ αὐτὸν ὀμόσαι καὶ δεξιὰν δοῦναι καὶ θεοὺς ἐπιορκῆσαι καὶ τὰ ἑαυτοῦ πιστὰ ἄπιστα ποιῆσαι Ἕλλησί τε καὶ βαρβάροις.

(*δ*) Οἱ μὲν δὴ στρατηγοὶ οὕτω ληφθέντες ἀνήχθησαν ὡς βασιλέα, καὶ ἀποτμηθέντες τὰς κεφαλὰς ἐτελεύτησαν, εἷς μὲν αὐτῶν Κλέαρχος ὁμολογουμένως ἐκ πάντων τῶν ἐμπείρως αὐτοῦ ἐχόντων δόξας γενέσθαι ἀνὴρ καὶ πολεμικὸς καὶ φιλοπόλεμος ἐσχάτως. Καὶ γὰρ δὴ ἕως μὲν πόλεμος ἦν τοῖς Λακεδαιμονίοις πρὸς τοὺς Ἀθηναίους, παρέμενεν· ἐπεὶ δέ εἰρήνη ἐγένετο, πείσας τὴν αὐτοῦ πόλιν ὡς οἱ Θρᾷκες ἀδικοῦσι τοὺς Ἕλληνας, καὶ διαπραξάμενος ὡς ἐδύνατο παρὰ τῶν ἐφόρων ἐξέπλει ὡς πολεμήσων τοῖς ὑπὲρ Χερρονήσου καὶ Περίνθου Θρᾳξίν. Ἐπεὶ δὲ μεταγνόντες πως οἱ ἔφοροι ἤδη ἔξω ὄντος αὐτοῦ

ἀποστρέφειν αὐτὸν ἐπειρῶντο ἐξ Ἰσθμοῦ, ἐνταῦθα οὐκέτι πείθεται, ἀλλ' ᾤχετο πλέων εἰς Ἑλλήσποντον.

6. (*a*) Translate the following single passages, explaining any peculiarity in construction:—(*a*) Ἐνταῦθα ἦν Κλέαρχον καταμαθεῖν. (*b*) σκοταῖοι προσιόντες. (*c*) ἠνλιζόντο περὶ πλήθουσαν ἀγοραν. (*d*) Ἄλλος ἄλλα λέγει. (*b*) Explain the construction of the following sentences:—(*a*) Ἀποτμηθέντες τὰς κεφαλὰς. (*b*) ὡς πολεμήσων. (*c*) ὡς Οἱ Θρᾷκες ἀδικοῦσι τοὺς Ἕλληνας.

7. (*a*) Parse λελείψεται, σωθῆναι, ὀμόσαι, ἀπιέναι, λείφθεντες, ἀποδρᾶναι. (*b*) Derive ἠντομόλησε, ὑπηρέτης, ἐννόω εὐπετῶς, σπουδάς·—Distinguish between the ordinary meaning of the Singular and Plural of the last word.

8. (*a*) Give the Gen., Accus., and Voc. Sing., and the Gen. and Dat. Plur., of:—γυνή, θυγάτηρ, παῖς, ἱππεύς, βοῦς, ὕδωρ, δόρυ. (*b*) Compare giving *Nom. Sing.* of each, μέσος, αἴσχρος, πολέμιος, μίκρος, ἱκανός, δεινός, ἀληθής, εὐδαίμων.

9. (*a*) What tenses denote single acts, continuous action, and acts of which the result is permanent? (*b*) Write the 1st person Sing. of the principal tenses of σφάζω, εὑρίσκω, ἀπόλλυμι, ἐκπλήσσω, κατακάιω, ἵστημι, πάσχω, πίπτω.

10. Give the Greek for (1) The river Euphrates; (2) To ground arms; (3) The good friend; (4) The father is bad; (5) The same woman; (6) The woman herself.

FRENCH.

THURSDAY, MAY 22ND:—AFTERNOON, 2 TO 5.

Examiner,.....P. J. DAREY, M.A., B.C.L.

Translate into English:

1. *Scapin.*—Monsieur, votre fils.....*Géronte.*—Hé bien? mon fils.....*Scapin.*—Est tombé dans une disgrâce la plus étrange du monde. *Géronte.*—Et quelle est-elle? *Scapin.*—Je l'ai trouvé tantôt tout (*a*) triste de je ne *sais* quoi que vous lui *avez dit*, où vous m'avez mêlé assez mal à propos: et cherchant à divertir cette tristesse nous sommes allés (*b*) nous promener (*c*) sur le port. Là entr'autres plusieurs choses nous avons arrêté (*d*) nos yeux (*e*) sur une galère turque (*f*) assez bien équipée. Un jeune Turc de bonne mine nous a invités (*g*) à aller à bord, et nous a présenté la main. Il nous a fait mille civilités et nous a donné la collation où nous avons mangé des fruits excellents, et bu du vin le meilleur (*h*) qui se *puisse* boire. *Géronte.*—Qu'y

a-t-il de si affligeant à tout cela? *Scapin.*—Attendez, monsieur, nous y voici. Pendant que nous mangions il a fait mettre la galère en mer, et se voyant éloigné du port, il m'a fait mettre dans un esquif et m'envoie vous dire que, si vous ne lui envoyez par moi, tout-à-l'heure, cinq cents (*i*) écus, il *va* vous emmener votre fils à Alger.

MOLIERE, *les Fourberies de Scapin.*

2. (*a*) To what part of speech does *tout* belong? To what other two parts of speech does *tout* sometimes belong? Give an example of each.

(*b*), (*d*) (*g*). Why have *allés* and *invités* an *s* and *arrêté* none? Give the rules.

(*c*) Why is promener used instead of marcher? Explain the difference between the meanings of those two verbs.

(*e*) Write the singular of *yeux*, and also of *chapeaux*, *travaux*, *souris* and *baux*. Write in the plural *clou*, *chou*, *cheval*, *régal*, and *gouvernail*. State the rules to form those plurals.

(*f*) What is the masculine of *turque*, and of *grecque*, *franche*, *rousse*?

(*h*) To what part of speech does *le meilleur* belong? What is its corresponding adverb? Explain fully when you have to use the one and when the other?

(*i*) Why has *cents* an *s*? Give three other cases when *cent* would have no *s*.

3. Write in full the *Preterite definite*, the *Future* and *Imperative* of the four verbs italicized in the above extract. Write also the negative form of the verb *sommes allés* (*b*) in the four tenses of the Subjunctive mood.

4. Correct the sentences: L'homme dont le frère vous connaissez. Je lui le dirai demain. Ils me sont venus quand ils avaient besoin de secours. Le service que je l'ai rendu semble m'avoir porté bonheur. Explain in what the mistakes consist, and give the rules to correct them.

5. Translate into French:

However, we loved each other tenderly, and our fondness increased as we grew old. There was in fact nothing that could make us angry with the world or each other. We had an elegant house, situate in a fine country and a good neighborhood. The year was spent in moral or rural amusements, in visiting our rich neighbours, and relieving such as were poor. We had no revolutions to fear, nor fatigues to undergo; all our adventures were by the fireside; and all our migrations from the blue bed to the brown.

GOLDSMITH, *The Vicar of Wakefield*, Book I.

GERMAN.

MONDAY, MAY 26TH:—AFTERNOON, 2 TO 5.

Examiner, ...C. F. A. MARKGRAF, M.A.

1. Translate into English:—

(A) Wie heißt das Ding, das Wen'ge schätzen?
Doch ziert's des größten Kaisers Hand;
Es ist gemacht, um zu verletzen;
Am nächsten ist's dem Schwert verwandt.

Kein Blut vergießt's und macht doch tausend Wunden,
Niemand beraubt's und macht doch reich;
Es hat den Erdkreis überwunden,
Es macht das Leben sanft und gleich.

Die größten Reiche hat's gegründet,
Die ältsten Städte hat's erbaut;
Doch niemals hat es Krieg entzündet,
Und Heil dem Volk, das ihm vertraut!

Schiller.

(B) Und Gottes Engel stand vor der Finstern da; er sprach zu ihr des heiligen Schicksals Wort: „Weil du das Licht der Sonne beneidet hast, Unglückliche, so wirst du künftig nur von ihrem Lichte glänzen; und wann dort eine Erde vor dich tritt, so stehest du halb oder ganz verfinstert da, wie jetzt.—Doch, Kind des Irrthums, weine nicht. Der Erbarmende hat dir deinen Fehler verziehen und ihn in Wohl verwandelt. „„Geh,"" sprach er, „„sprich der Reuenden zu. Auch sie in ihrem Glanze sei Königinn. Die Thränen ihrer Reue werden ein Balsam sein, der alles Lechzende erquickt, der das vom Sonnenstrahl Ermattete mit neuer Kraft belebet.""

Getröstet wandte sich Luna; und siehe, da umfloß sie jener Glanz, in welchem sie jetzt noch glänzt. Sie trat ihn an, den stillen Gang, den sie jetzt noch geht, die Königinn der Nacht, die Führerinn der Sterne. Beweinend ihre Schuld, mitleidig jeder Thräne, sucht sie, wen sie erquicke; sie sucht, wen sie tröste.

Fragment from „Sonne und Mond" by Herder.

2. (See Extract A)—(*a*) Decline in the Sing. and Plural:—des größten Kaisers, die größten Reiche, die ältsten Städte. (*b*) Am nächsten. Explain this form, and give the derivation. (*c*) ....das Wen'ge schätzen? ....das ihm vertraut!—What other word might be used for „das" in the above sentences? How is das declined, when used in this sense?

3. (*a*) Stand, ſprach, beneidet haſt, wirſt glänzen, tritt, hat verziehen, ſprich zu, ſei, getröſtet, wandte, umfloß, trat an (See Ext. B).—Parse these verbs, and give their Present Infinitives. Show also which of them are *simple*, *derived* (inseparable) or *compound* (separable) verbs, and illustrate by examples the difference in the conjugation of *derived* and *compound* verbs. (*b*) Erbarmende, Lechzende, Reuenden Ermattete (See Ext. B).—Explain these forms, and give the derivation of each.

4. (*a*) Which nouns may take the Plural ending „e", and which „er"? (*b*) Which masculine, feminine and neuter nouns do *not modify* the radical vowel in the Plural?

5. (*a*) Convert the following nouns into diminutives:—Kirche, Buch, Garten, Glas, Frau, Kaſten Blatt, Rock, Vogel. (*b*) Give *six* feminine nouns formed from masculines.

6. (*a*) Give a table of the declension of adjectives, (1) when preceeded by ein, kein, or a possessive pronoun; (2) when preceded by *no declinable* word. *b*) How are adjectives formed from nouns of substance? Give examples.

7. Translate:—What o'clock is it? a quarter to nine; half past twelve; a quarter past three; half an hour; six months ago; this morning; in the evening; 82 and 61 make 149; 4 times 8 are 32 (The figures to be expressed in letters).

8. Write out all persons of the Present and the 1st Sing. of the Imperfect Indicative of können, wollen, mögen, müſſen, dürfen, wiſſen.

9. Conjugate, giving the 3rd Sing. and 1st Plu. of all the tenses of the Indicative active:—ſagen, denken, kommen.

10. State the case (or cases) governed by each of the following prepositions:—für, zu, gegen, vor, bei, ohne, über, von, auf.

11. Translate into English:—

Dieſe Häuſer ſind nicht ſo hoch wie jene. Das Grün iſt die Farbe der Hoffnung. Alle Bäume und Pflanzen wachſen aus der Erde. Die Bauern verkaufen die Früchte ihrer Felder. Ich kenne ihn ſeit meiner Kindheit. Wir ſind geſtern durch den Wald geritten. Er iſt ein Mann, der Jedermann Gutes thut. Die Mädchen banden Blumenſträuße und brachten ſie nach Hauſe, um ihre Mutter damit zu beſchenken. Der Kranke wünſcht, daß man den Arzt rufen laſſe. Leſen Sie mir den Brief vor, welchen Sie geſchrieben haben.

ALGEBRA.

WEDNESDAY, MAY 28TH:—MORNING, 9 TO 12.

Examiner,..... { REV. PRINCIPAL LOBLEY, D.C.L.
GEO. H. CHANDLER, M.A.

1. Show that $\dfrac{x+1}{\frac{1}{x}+1} = x$, when $x = 1$, or 2, or 3, or *any* number.

2. From $a - x - (x - 2a) + (2a - x)$ take $a - 2x - (2a - x) + (x - 2a)$ and multiply the remainder by $8a + 3x$.

3. Resolve each of the following expressions into elementary factors, and hence write down their greatest common measure:

$$x^2 + 5x + 4,$$
$$x^2 + 2x - 8,$$
$$x^2 + 7x + 12.$$

4. Prove that $\dfrac{a}{b} - \dfrac{(a^2 - b^2)\,x \div a\,(a^2 - b^2)\,x^2}{b^2 + b^2\,(b + ax)} \cdot \dfrac{a + bx}{b + ax} = 0.$

5. Extract the square root of $9a^4 - 12a^3b + 34a^2b^2 - 20ab^3 + 25b^4$.

6. Solve the following equations:

$$(a) \quad \frac{9}{2x} - 4 = \frac{2}{3},$$
$$(b) \quad \frac{2x}{7} + \frac{x-1}{6} = x - 4,$$
$$(c) \quad \frac{x}{x+1} - \frac{3x}{x \div 2} = -2.$$

7. Find the values of the unknown quantities which satisfy the following sets of simultaneous equations:—

$$(a) \left\{ \begin{array}{l} \frac{1}{8}x + \frac{1}{9}y = 42, \\ \frac{1}{9}x + \frac{1}{8}y = 43 \end{array} \right\},$$

$$(b) \left\{ \begin{array}{l} x + \frac{1}{2}(y + z) = 102, \\ y + \frac{1}{3}(z + x) = 78, \\ z + \frac{1}{4}(x + y) = 61. \end{array} \right\}$$

8. If two numbers differ by unity, prove that the difference of their squares is the sum of the two numbers.

9. A horsekeeper, not having room in his stables for 8 of his horses, built so as to increase his accommodation by one half, and now has room for 8 more than his whole number. How many horses had he?

10. The date of the accession of George III is represented by $1800 - 2x$, that of George IV by $1800 + \frac{1}{2}.2x$, that of William IV by $1800 + \frac{1}{2}.3x$; and if George III's reign be increased by $2x$, it will amount to 100 years. What are the actual dates?

TRIGONOMETRY.

WEDNESDAY, MAY 28TH:—AFTERNOON, 2 TO 5.

Examiners,..... { REV. PRINCIPAL LOBLEY, D.C.L. / GEORGE H. CHANDLER, M.A.

1. Find the number of degrees, minutes and seconds in an angle which is $2\frac{1}{4}$ times the unit in the circular system of angular measurement.

2. Define the sine, cosecant and cotangent of an angle, and find them for the angle 60°.

3. Write down the numerical values of the following expressions, being careful to give the correct sign in each case: $cos\ 30°$, $cot\ 45°$, $sin\ \frac{\pi}{2}$, $tan\ 135°$, $tan\ \frac{5}{4}\pi$, $cosec\ 2\pi$.

4. Prove the following relations:

$$sin^2 A + cos^2 A = 1,$$

$$sec\ A = \frac{1}{cos\ A},$$

$$cos\ \theta = \frac{1}{\sqrt{1 + tan^2 \theta}},$$

$$cos\ x + sin\ x\ tan\ x = sec\ x$$

5. Given $sec\ \theta = 1.03$, find $sin\ \theta$ and $tan\ \theta$.

6. Prove that the sine of an angle is equal to the cosine of its complement.

7. Prove the following formulae:

$$sin\ (A + B) = sin\ A\ cos\ B + cos\ A\ sin\ B.$$

$$tan\ (A + B) = \frac{tan\ A + tan\ B}{1 - tan\ A\ tan\ B},$$

$$1 + cos\ A = 2\ cos^2 \frac{A}{2}.$$

8. Given the hypotenuse and one angle of a right-angled triangle, show how the other parts may be found.

9. The length of a kite string is 250 yards, and the angle of elevation of the kite is 30°; find the height of the kite.

10. At 140 feet from the base of a tower, and on a level with the base, the angle of elevation of the top was found to be 54° 27′. Find the height of the tower, having given

$$\tan 54° 27' = 1.399364.$$

MECHANICS AND HYDROSTATICS.

WEDNESDAY, MAY 28TH :—AFTERNOON 2 to 5.

Examiners,..... { REV. PRINCIPAL LOBLEY, D.C.L. / GEORGE H. CHANDLER, M.A.

1. Assuming the proposition called the parallelogram of forces for the direction, prove it for the magnitude of the resultant.

2. Define Centre of Gravity.

a. Shew that the centre of gravity of a plain lamina in the form of a parallelogram is at the intersection of its diagonals.

3. If a body, when placed successively in the two scales of an unequal balance, weighs first $7\frac{1}{4}$ lbs. and then $7\frac{3}{4}$ lbs.: find the true weight of the body.

4. Find what power acting horizontally will support a weight of 16 lbs. on a smooth inclined plane whose height is 3 inches and the length of its base 2 ft. 3 inches.

5. Shew that the effect of a force upon any point which does not lie in its line of action may be represented by a force and a couple.

6. What is the first Law of Motion?

a. Why does a bullet fired from a gun not move in general in a straight line?

7. Shew that if a body move from rest under the action of a constant force, its velocity after t seconds being v, and the distance through which it has moved being s, $s = \frac{1}{2} vt$.

8. If a stone be attached to the end of a string and whirled quickly round, why does the string remain stretched?

a. If the string be 4 ft. long and strong enough to bear a weight of 9 lbs. and the stone weigh $\frac{1}{2}$ lb., how fast may the stone be made to move without breaking the string?

9. Find the pressure in lbs. upon the lid and each side of a rectangular box, sunk in fresh water until the lid, which is horizontal, is 20 feet below the surface; the dimensions of the box being: height $\frac{1}{2}$ feet, length $2\frac{1}{2}$ feet, breadth 1 foot 3 inches. The weight of a cubic foot of water may be taken as 1000 oz. avoirdupois.

10. Explain clearly why a body that is lighter than water floats in water.

a. A cylindrical block of wood whose specific gravity is ·852 floats in water, whose specific gravity is 1, with its axis vertical. Find how much of it is immersed.

11. How do you distinguish a *gas* from a *liquid?*

a. What is the use of a barometer?

b. Explain the construction of a mercurial barometer.

12. Explain the principle of the Diving Bell.

GEOMETRICAL AND FREEHAND DRAWING.

SATURDAY, MAY 30TH:—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, C.E.

1. Construct the largest regular octagon which can be contained by a square of 3 in. side.

2. Divide a straight line which is 2.5 in. long, into seven equal parts.

3. Erect a perpendicular to a straight line, at one end of it, without producing the line.

4. Construct a triangle the area of which shall be equal to a regular hexagon of 1 in. side.

5. Inscribe within a given circle, four equal circles which touch each other.

6. Draw the curve of an ellipse the major and minor axes of which are respectively, 3 and 2 inches.

7. Draw by the freehand a square of 2 in. side and within it draw ten equidistant lines parallel to one of the sides; draw also a series of lines the same distance apart as the former and parallel to one of the diagonals of the square.

8. Make a reduced freehand copy of the rosette which is before you.

9. Make a drawing of the book, cup and saucer before you as they appear from your point of view.

N.B.—All construction lines used for the geometrical problems to be shown in dotted lines. No mechanical aid whatever is to be used in questions 7, 8 and 9.

ENGLISH LANGUAGE.

(Peile, *Philology*;
Smith, *English Grammar*;
Trench, *On the Study of Words*).

THURSDAY, MAY 29TH:—MORNING, 9 TO 12.

Examiners,..... { REV. J. CLARK MURRAY, LL.D.
REV. ISAAC BROCK, M.A.
CHAS. E. MOYSE, B.A.

1. Make a note or two concerning any peculiarities in the formation of the following words,—wassail, limbec, children, bridegroom, humble, thunder.

2. "I have tried to show you three different types of language." Name these types, and illustrate them by word-examples.

3. What are (*a*) primary, (*b*) secondary, suffixes. Discuss a few which Peile cites as important.

4. "Generally, then, we may say that an adverb is historically a petrified case." Explain.

5. Mention a few nouns used (*a*) only in the singular, (*b*) only in the plural. Give the plurals of, crisis, genius, genus, vortex, beauty, valley.

6. When are verbs said to be (*a*) strong, (*b*) weak, (*c*) transitive, (*d*) intransitive. Discriminate between the various uses of *shall* and *will* as auxiliaries.

7. Classify Adjectives, and write a somewhat detailed account of any class of Pronouns.

8. State clearly what is meant by Grimm's Law and illustrate it.

9. Give the derivation of the word *tribulation*. Show from it how much of poetry is often to be found in a single word.

10. What words of the English language bear witness to the fact that the Norman was the ruling race?

11. What History is involved in the words *Pagan* and *Dunce*?

12. Distinguish between *foresight* and *Providence*; *Astronomy* and *Astrology*; *arrogant* and *presumptuous*.

13. What is the derivation of the words *candidate*, *trivial* and *Revelation*.

14. Parse and analyse, (grammatically);

> "If you did know to whom I gave the ring,
> And how unwillingly I left the ring,
> You would abate the strength of your displeasure."

ENGLISH LITERATURE.

(S. A. Brooke, *English Literature.*
Sir W. Scott, *The Lady of the Lake.*
Milton, *Paradise Lost*, bks i and ii.)

TUESDAY, MAY 27TH :—MORNING, 9 TO 12.

Examiners,..... ..... { J. CLARK MURRAY, LL.D.
REV. ISAAC BROCK, M.A.
CHAS. E. MOYSE, B.A

1. Make a note or two concerning each of the following books :—*Beowulf*, *The Vision Concerning Piers the Plowman*, *Morte d'Arthur*, *The King's Quhair*, *Euphues*, *Arcadia*, *The Faerie Queene*.

2. Give an outline of the rise and the development of the Elizabethan drama.

3. Tell the story of Milton's literary life.

4. Write what you know concerning the important works of Dryden Swift, Fielding, Wordsworth.

5. Describe the building of Pandæmonium.

6. Name the Fallen Angels who spoke to the council in Pandæmonium, and state, in Milton's language when you can, some of the opinions expressed by each.

7. Who confronted Satan at the gate of hell? How was a conflict avoided? Relate the incidents of Satan's journey from hell-gate until he saw the world.

8. Cite famous allusions in the first two books of "Paradise Lost," (*a*) to Scripture narrative, (*b*) to the ancient heroes of Classic story.

What do the following words in italics mean? *nathless*, *buxom* air *nethermost* abyss, *grunsel* edge *Amviral*, *harpy-footed* Furies, *palpable* obscure *unessential* night, *horrent* arms, the parching air burns *frore*, *penal* fire.

9. Describe the Geography of the "Lady of the Lake," and connect with the more important places you mention, the events that happened there.

10. Who was the Lady of the Lake? Briefly tell what part she plays in the poem.

11. Relate, (*a*) the details of the combat between Roderick Dhu and Fitz-James and say what was the cause of their quarrel?—(*b*) the sports in presence of King James. Why was Douglas arrested?

12. Explain these allusions, and mention, if you can, where they occur:

(*a*) My sire's tall form might grace the part Of Ferragus or Ascabart. (*b*) What time he leagued, no longer foes, His Border spears with Hotspur's bows. (*c*) And while the Fiery Cross glanced, like a meteor, round. (*d*) The fatal Ben Shie's boding scream. (*e*) Maid Marian fair as ivory bone.

GENERAL HISTORY.

TUESDAY, MAY 27TH:—AFTERNOON, 2 TO 5.

Examiners,..... { REV. J. CLARK MURRAY LL.D. / REV. ISAAC BROCK, M.A. / CHAS. E. MOYSE, B.A.

1. Date and results to the Roman Empire and the Christian Church of the Battle of the Milvian Bridge.

2. Names of the three great leaders of the Barbarian hosts who overthrew Rome. Date of the sack of Rome under the first. Result of the Battle of Chalons.

3. Who were Livy, Tacitus, Tertullian, Athanasius and Chrysostom? Where did they live? What did they write?

4. Who was Charlemagne? Describe the circumstances of his coronation.

5. What was the origin of the Crusades? Describe briefly the result of the first Crusade.

6. Tell how Switzerland won her independence in the 14th century.

7. When and where did the following authors live: Dante, Chaucer, Milton, Newton and Oliver Goldsmith? Their chief works?

8. When and where was the battle of Lützen fought? Between whom? Result?

9. When and where lived Rafael, Columbus, Titian, Kepler, Mozart Sir Walter Scott? What were they respectively celebrated for?

10. Date, and results to Europe, of the Battle of Waterloo.

GEOGRAPHY.

THURSDAY, MAY 29TH:—AFTERNOON, 2 TO 5.

Examiners,..... ..... { J. CLARK MURRAY, LL.D.
REV. ISAAC BROCK, M.A.
CHAS. E. MOYSE, B.A.

1. Make a note or two concerning each of the following;—atoll, fauna, dew, bore, delta, pampas, isothermal lines, neap tides, dunes, watershed.

2. Tell all you know about the cause, direction locality, and character of the Trade Winds. Where would you expect to meet with monsoons, cyclones and typhoons? Of what nature are they?

3. You ascend to the summit of a snow-capped mountain in the tropics. What do you observe worthy of record by a physical geographer?

4 Mention the products of a volcanic eruption. Describe the distribution of volcanoes on the earth's surface.

5. Draw an outline map of England and Wales, and (*a*) trace the courses of the larger rivers flowing into the North Sea; (*b*) mark the directions of the chief mountain chains; (*c*) show where each of these places is situated, and say for what it is noted:—Canterbury, Liverpool, Chester, London, Birmingham, Norwich, Plymouth, Manchester, Hull, Bristol.

6. Describe the leading features of the geography of the British possessions in Africa.

7. Where and under what government are Utrecht, Geneva, Munich, Odessa, Stockholm, Madrid, Florence, Singapore, Melbourne, Yedo.

8. Describe the lake system of British North America.

9. Name the largest island of the West Indies, the Philippines and the East Indies, and its chief town. Say what nation possesses it, and give a list of its exports and its imports.

10. State as clearly as you can where each of these places is to be found and also why it is noteworthy:—Charlottetown, Belize, Ottawa, New Westminster, Philadelphia, New Orleans, San Francisco, Quito, C. Farewell, Monte Video.

11. (*a*) Name, in their order, the prominent capes of the Old World Continent. (*b*) Sketch the coast-line of the Mediterranean Sea, and indicate the position of the chief maritime towns and the mouths of the large rivers; insert the important islands.

12. Take each of the following countries, France, Portugal, India, China, and mention (*a*) its three largest towns, (*b*) its three longest rivers, (*c*) its chief products, raw and manufactured.

BOTANY.

FRIDAY, MAY 23RD:—2 P.M. TO 5.

Examiner,..... .....PRINCIPAL DAWSON.

1. How may the subjects included in Botany be grouped? Define these groups.

2. Describe the development of the Embryo, taking any common seed as an illustration.

3. Explain the structure and functions of Rootlets.

4. What are the structures and uses of the Petioles, Stomata and Veins of Leaves?

5. How are Rhizomes, Corms and Bulbs distinguished from Roots and from ordinary Stems?

6. Describe the parts of a typical Flower and their uses.

7. Mention any plants which have Drupes, Samaras, Legumes and Strobiles. Describe either of these kinds of fruit.

8. Distinguish ordinary Cellular Tissue from Woody Fibre and Vessels.

9. Explain how Carbonic Acid nourishes plants.

10. Name the Series and Classes of plants, in a tabular form, with an example of each.

11. Describe the Flower exhibited, stating its parts and mode of inflorescence.

ELEMENTARY CHEMISTRY.

FRIDAY, MAY 23RD:—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. What is Ozone? Give its properties and a test for its detection.

2. Describe the centigrade thermometer, and convert 90° F. into the corresponding degrees on the centigrade scale.

3. How may the composition of Water be determined by synthesis?

4. Name the principal products of the destructive distillation of coal, and describe one of them.

5. How is Ammonia prepared, and what are its properties?

6. What is the composition of the following substances:—Plaster of Paris, Scheele's Green, Aqua-fortis, Calomel and Saltpetre?

7. Explain the changes indicated by the following equations:—

$$H_2SO_4 + Na\,NO_3 = Na\,HSO_4 + HNO_3.$$
$$MnO_2 + 4\,H\,Cl = Mn\,Cl_2 + 2\,H_2O + Cl_2.$$
$$H_2SO_4 + Fe\,S = Fe\,SO_4 + H_2S.$$

8. What are the properties of Zinc, and how is the metal obtained from its ores?

9. Describe Reisch's test for the detection of Arsenic.

10. Name the substances indicated by the following formulæ:—$Hg\,S$, $Ca\,F_2$, $K_2\,CO_3$, $Pb\,Cr\,O_4$, $N_2\,O$.

DATE DUE

DUE	RETURNED
ILL ML	OCT NOV 1984

KING PRESS NO. 306

McGill University Library
3 103 858 482 I